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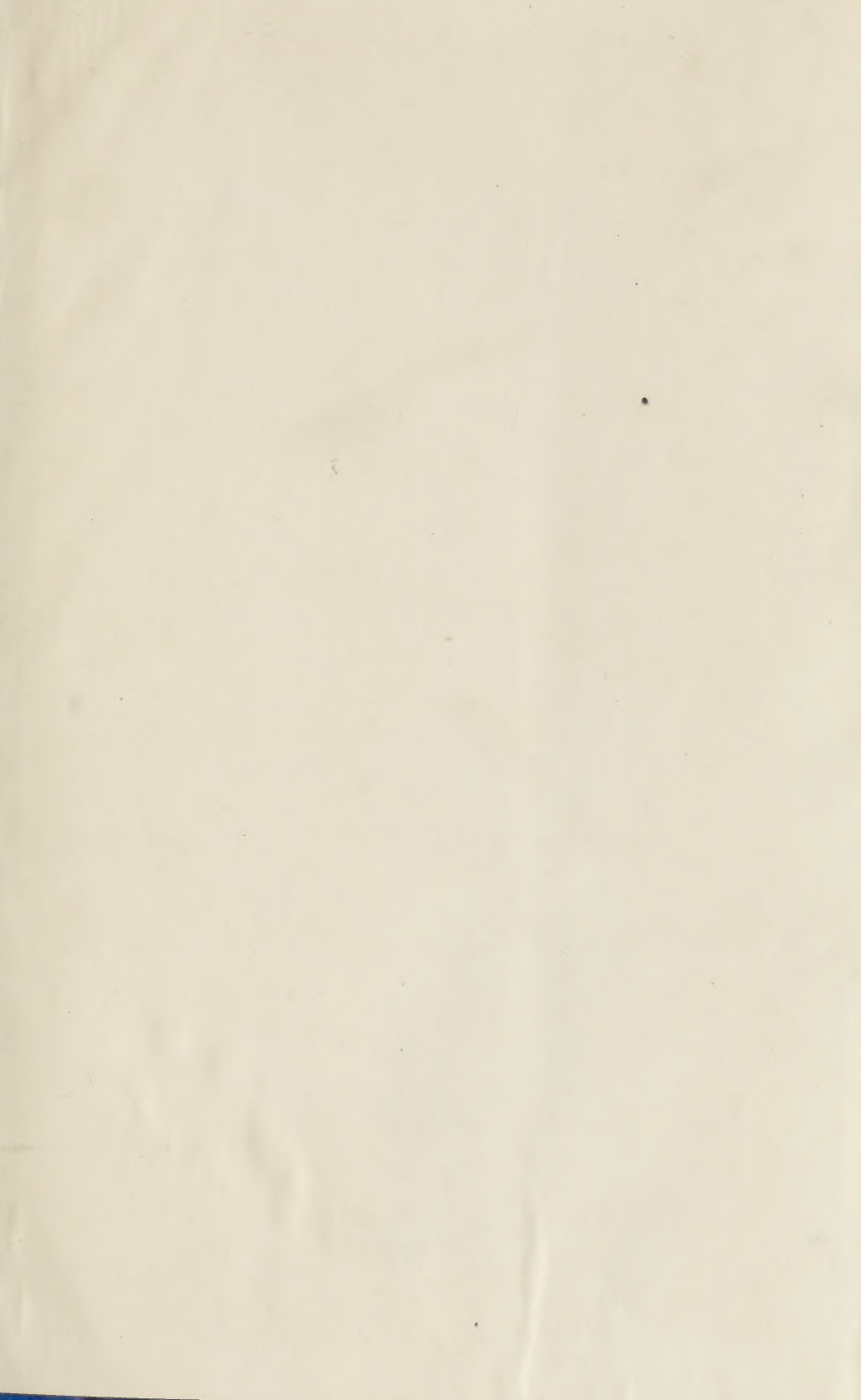
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United States
Circuit Court of Appeals
For the Ninth Circuit.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY, a Corporation,

Appellant,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY, a Corporation,

Appellee.

Transcript of Record.

Upon Appeal from the Southern Division of the
United States District Court for the
Northern District of California,
Second Division.

FILED

JAN 14 1921

F. D. MONCKTON,
CLERK

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INDEX TO THE PRINTED TRANSCRIPT OF RECORD.

[Clerk's Note: When deemed likely to be of an important nature, errors or doubtful matters appearing in the original certified record are printed literally in *italic*; and, likewise, cancelled matter appearing in the original certified record is printed and cancelled herein accordingly. When possible, an omission from the text is indicated by printing in *italic* the two words between which the omission seems to occur.]

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In the Southern Division of the United States
District Court for the Northern District of
California, Second Division.

No. 493.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY,

Defendant.

Bill of Complaint for Infringement of Patent.

Now comes the plaintiff in the above-entitled suit and files this its bill of complaint against the defendant, and for cause of action alleges:

1. That the full name of the plaintiff is Majestic Electric Development Company, and at all times hereinafter mentioned plaintiff was and still is a corporation created under the laws of the State of California and having its principal place of business in the City and County of San Francisco, State of California.

2. That the full name of the defendant is Westinghouse Electric & Manufacturing Company, and at all the times hereinafter mentioned said defendant was and still is a corporation created under the laws of the State of Pennsylvania, and having a regular and established place of business in the Northern District of California, Southern Division, to wit, at the City and County of San Francisco, State of Cali-

2 *Majestic Electric Development Company vs.*

fornia, with an agent engaged in conducting such business in said Northern District of California, Southern Division.

3. That heretofore, to wit, on and prior to July 10th, 1917, one Edmund N. Brown was the original and first inventor of a certain new and useful invention, to wit, an electric [1*] heater, which had not been known or used by others in this country before his invention thereof, nor patented nor described in any printed publication in this or any foreign country before his said invention thereof, or more than two years prior to his application for a patent, nor was the same in public use or on sale in this country for more than two years prior to his application for a patent in this country, and being such inventor, heretofore, to wit, on July 10, 1917, said Edmund N. Brown filed an application in the Patent Office of the United States praying for the issuance to him of letters patent of the United States for said new and useful invention.

4. That after the filing of said application and prior to the issuance of any patent thereon, said Edmund N. Brown for value received, by an instrument in writing sold and assigned to the plaintiff herein the aforesaid new and useful invention together with any and all letters patent that might be issued therefor on said application, and in and by said assignment requested the Commissioner of Patents to issue the said patent to the Majestic Electric Development Company, a corporation, its successors and

*Page-number appearing at foot of page of original certified Transcript of Record.

assigns, which said assignment in writing was filed in the Patent Office of the United States prior to the issuance of any letters patent on said application.

5. That thereafter, to wit, on October 30, 1917, letters patent of the United States for the said invention, dated on said last named day, and numbered 1,245,084, were issued and delivered by the Government of the United States whereby there was granted to the plaintiff, its successors and assigns, for the full term of seventeen years from October 30, 1917, the sole and exclusive right to make, use and vend the said invention throughout the United States of America and the territories thereof, and a more particular description of the invention patented in and by said letters patent will fully appear from the said letters patent [2] themselves which are ready in court to be produced by the plaintiff, and of which the plaintiff hereby makes profert.

6. That ever since the issuance of said letters patent plaintiff has been and still is the sole owner and holder thereof and of the rights, liberties, and privileges thereby conferred, and has made, sold and used electric heaters containing and embracing the invention patented in and by said letters patent, and upon each and every one of said heaters so sold the date and number of the aforesaid letters patent was marked.

7. That since the issuance of the said letters patent and within two years last past, at the City and County of San Francisco, in the Northern District of California, Southern Division, and at other places

in the Northern District of California, and outside of the Northern District of California, without the license or consent of the plaintiff, the defendant herein, Westinghouse Electric & Manufacturing Company, has made, used and sold electric heaters containing and embracing the invention patented in and by said letters patent, No. 1,245,084, and has infringed upon the same and upon each and all of the claims thereof.

8. That by reason of said infringement plaintiff has suffered damages and, as plaintiff is informed and believes, defendant has realized profits, but the exact amounts of said damages and profits are unknown to the plaintiff.

9. That the plaintiff has requested the defendant to desist from further infringement of said letters patent and to account to plaintiff for the aforesaid damages and profits, but defendant has failed and refused to comply with the said request or any part thereof.

10. That the defendant is now continuing said infringement upon said letters patent daily at the City and County of [3] San Francisco, in the State of California, and elsewhere, and threatens to continue the same, and unless restrained therefrom by this Honorable Court will continue the same, whereby plaintiff will suffer great and irreparable injury and damage for which it has no plain, speedy or adequate remedy at law.

WHEREFORE, plaintiff prays as follows:

First: That a final decree be entered in favor of

plaintiff, Majestic Electric Development Company, and against the defendant, Westinghouse Electric & Manufacturing Company, perpetually enjoining and restraining the said defendant, its officers, servants, agents, attorneys, workmen and employees, and each of them, from making, using or selling the device or devices described, claimed and patented in and by the said letters patent either directly or indirectly, or from contributing to any such infringement.

Second: That upon the filing of this bill of complaint a preliminary injunction be granted to the plaintiff enjoining and restraining the defendant, Westinghouse Electric & Manufacturing Company, its officers, servants, agents, attorneys, workmen and employees, and each of them, until the further order of this Court, from making, using or selling the device or devices described, claimed and patented in and by the said letters patent, and from making, using or selling any device or devices in colorable imitation thereof, and from infringing upon said letters patent either directly or indirectly or from contributing to any such infringement.

Third: That plaintiff have and recover from the defendant Westinghouse Electric & Manufacturing Company the gains, profits and advantages realized by the defendant and the damages suffered by the plaintiff from and by reason of the infringement aforesaid, together with costs of suit, and such other and further relief as to the Court may seem proper

and in accordance with equity and good [4] conscience.

MAJESTIC ELECTRIC DEVELOPMENT
COMPANY.

By EDMUND N. BROWN,
Secretary.

JOHN H. MILLER,
Attorney and Counsel for Plaintiff,
723-6 Crocker Building,
San Francisco, California.

United States of America,
Northern District of California,
City and County of San Francisco,—ss.

Edmund N. Brown, being duly sworn, deposes and says: That he is secretary of Majestic Electric Development Company, plaintiff, in the within entitled case; that he has read the foregoing bill of complaint and knows the contents thereof; that the same is true of his own knowledge, except as to matters therein stated on information and belief, and as to those matters he believes it to be true.

EDMUND N. BROWN.

Subscribed and sworn to before me this 1st day of
November, A. D. 1919.

[Seal]

EUGENE P. JONES,

Notary Public in and for the City and County of
San Francisco, State of California.

[Endorsed:] Filed Nov. 1, 1919. W. B. Maling,
Clerk. By J. A. Schaertzer, Deputy Clerk. [5]

(Title of Court and Cause.)

Second Amended Answer.

The answer of Westinghouse Electric & Manufacturing Company, the above-named defendant, to the bill of complaint of the above-named plaintiff.

This defendant, now and at all times hereafter, saving and reserving to itself all and all manner of benefit and advantage of exception which may be had, or taken, to the many errors, uncertainties, imperfections and insufficiencies in said bill of complaint contained, for answer thereunto, or into so much and such parts thereof as this defendant is advised that it is material or necessary to make answer unto, answering, says:

1. As to whether the full name of the plaintiff is Majestic Electric Development Company, and whether the plaintiff was and still is a corporation created under the laws of the State of California and has its principal place of business in the City and County of San Francisco, State of California, defendant does not know and leaves the plaintiff to make proof thereof.

2. Answering further, this defendant admits that the full name of defendant is Westinghouse Electric & Manufacturing Company and that it was and still is a corporation of the State of Pennsylvania and has a regular and established place of business in the City and County of San Francisco, State of California, with an agent conducting such business.

3. Answering further, this defendant admits

that one Edmund N. Brown, on July 10, 1917, filed an application in the United States Patent Office praying for the issuance to him of letters patent of the United States for an alleged new and useful [6] invention, to wit, an electric heater, but denies that the same had not been known or used by others in this country before his alleged invention thereof or patented or described in any printed publication in this or any foreign country before his alleged invention thereof or more than two years prior to his application for letters patent, and further denies that the said alleged invention had not been in public use or on sale in this country for more than two years prior to the said application for letters patent of the United States.

4. Answering further, as to whether the said Edmund N. Brown, for value received, sold and assigned to the plaintiff herein, by an instrument in writing, the alleged invention covered by the said application for letters patent, together with any and all letters patent that might be issued thereon and by such assignment requested the Commissioner of Patents to issue the letters patent to the Majestic Electric Development Company, the plaintiff herein, and whether the said assignment, in writing, was filed in the Patent Office of the United States prior to the issuance of any letters patent on the said application, this defendant does not know and leaves the plaintiff to make proof thereof.

5. Answering further, this defendant admits that letters patent No. 1,245,084 were issued to the Majestic Electric Development Company, assignee

of Edmund N. Brown of San Francisco, California, on October 30, 1917.

6. Answering further, as to whether, ever since the issuance of said letters patent, the plaintiff has been and still is the sole owner and holder thereof and of the rights, liberties and privileges thereby conferred and has made, sold and used electric heaters containing and embracing the alleged invention patented in and by said letters patent, and as to whether, upon each and every [7] one of such heaters as plaintiff may have sold, has been marked the date and number of the aforesaid letters patent, defendant does not know and leaves plaintiff to make proof thereof.

7. Answering further, this defendant denies that, since the issuance of said letters patent, it has made, used and sold, and is now making, using or selling within the City and County of San Francisco, in the State of California, in the Northern District of California, Southern Division, or elsewhere, electric heaters containing or embracing the invention patented in the said letters patent, or that it has in any manner infringed upon the rights secured to the plaintiff by virtue of said letters patent or that any electric heaters made and sold by this defendant were, or are, infringements upon the said letters patent, or anything described and claimed therein.

8. Answering further, this defendant denies that it has realized profits by reason of any infringement of the aforesaid letters patent or that the plaintiff

10 *Majestic Electric Development Company vs.*

has suffered damages by reason of any such infringement.

9. Answering further, this defendant admits that it has been requested by the plaintiff to desist from infringing said letters patent and to account to plaintiff for alleged damages and profits, but this defendant denies that it has failed and refused to comply with any such request or any part thereof.

10. Answering further, this defendant denies that it is now continuing infringement upon said letters patent, directly or otherwise, at the City and County of San Francisco, in the State of California, and elsewhere, and that it threatens to continue any such infringement.

11. Answering further, this defendant denies that the alleged improvement in electric heaters, described and claimed in said letters patent No. 1,245,084, contains and embodies any material beneficial advance over what had previously been known to those skilled in the art, but, on the contrary, avers the fact to be that [8] the claims of the said patent and each of them are invalid and void on the following grounds:

(a) Because the said Edmund N. Brown was not the original and first inventor or discoverer of the invention alleged to be described and claimed in said letters patent or of any material or substantial part thereof, but that the same and all material or substantial parts of the alleged invention had been patented or described in printed publications and letters patent prior to the date of the alleged invention of the said Edmund N. Brown, as follows:

LETTERS PATENT OF THE UNITED STATES.

	No.	Date.	Patentee.
	8,101	May 20, 1851	R. Jobson.
Design	45,317	Feb. 24, 1914	A. A. Warner.
Design	46,922	Feb. 9, 1915	F. X. Chassaing.
Design	51,043	July 17, 1917	E. N. Brown.
Design	51,253	Sept. 11, 1917	E. N. Brown.
	235,199	Dec. 7, 1880	A. G. Bell.
	235,497	Dec. 14, 1880	A. G. Bell & S. Tainter.
	492,247	Feb. 21, 1893	W. E. W Ulmer.
	530,016	Nov. 27, 1894	J. Cinnamon.
	654,630	July 31, 1900	H. V. Hayes & E. R. Cram.
	658,706	Sept. 25, 1900	H. J. Dowsing.
	684,459	Oct. 15, 1901	E. F. Porter.
	881,017	Mar. 3, 1908	W. E. H. Morse.
	893,994	July 21, 1908	F. C. Green.
	902,003	Oct. 27, 1908	A. D. Rathbone.
	921,476	May 11, 1909	W. A. Soles.
	988,824	Apr. 4, 1911	L. A. Sagendorph.
	1,084,375	Jan. 13, 1914	G. B. Swinehart.
	1,097,282	May 19, 1914	L. W. Andersen.
	1,109,551	Sept. 1, 1914	M. H. Shoenberg.
	1,120,003	Dec. 8, 1914	A. A. Warner.
	1,147,951	July 27, 1915	F. T. Kitchen.
	1,187,968	June 20, 1916	E. N. Cherry.
	1,205,011	Nov. 14, 1916	Phillips & Anderson.

LETTERS PATENT OF GREAT BRITAIN.

No. 19,311 of 1894.

No. 11,013 of 1910.

No. 2,764 of 1912.

No. 19,971 of 1913.

No. 102,070 of 1916.

PUBLICATIONS.

Page 79 of the issue of Jan. 25, 1912, *The Electrical Times*, published in London, England.

Page 37 of the issue of Jan. 11, 1912, *The Electrical Times*.

Page 239 of the issue of Mar. 7, 1912, *The Electrical Times*.

Page 362 of the issue of Mar. 6, 1913, *The Electrical Times*.

Page 364 of the issue of Mar. 6, 1913, *The Electrical Times*.

Page 214 of the issue of Oct. 3, 1913, the Supplement to "*The Electrician*," published in London, England.

Page 353 of the issue of Oct. 9, 1913, *The Electrical Times*.

Page 591 of the issue of Dec. 4, 1913, *The Electrical Times*.

Page 12 of the issue of Oct. 16, 1914, the Supplement to "*The Electrician*."

Page 19 of the issue of May, 1915, *Electrical Record*, published in New York, N. Y.

Page 162 of the issue of Aug. 31, 1916, *The Electrical Times*.

Page 14 of the issue of May, 1907, *Electrical Record*, published in New York, N. Y.

Advertising insert—page two of the Supplemental to "*The Electrician*" of the issue of September 20, 1912.

Page 163 of the issue of Aug. 16, 1912, the Supplement to "*The Electrician*."

Pages 1 and 11 of the Oct. 3, 1906, issue of "Prometheus," published by Dr. Otto N. Witt in Berlin, Germany.

Also in many other letters patent and printed publications not now known to this defendant, but which, when discovered hereafter, defendant prays leave of the Court to furnish and concerning which defendant prays leave to incorporate data in this, its answer, by suitable amendment thereof.

(b) Because, in view of the state of the art in respect to electric heaters prior to, or at the time of, the alleged invention of the said Edmund N. Brown, the supposed improvement described [10] and claimed in said letters patent was not a patentable invention, discovery or improvement but comprised mere selections and adaptations from prior known structures requiring no invention but being within the domain of mere judgment and skill in the art and, in view of such prior art, this defendant refers to and hereby makes a specific part of its answer, the several printed publications and letters patent hereinbefore cited.

(c) Because, defendant is informed and believes, the said Edmund N. Brown was not the original and first inventor of the alleged invention, discovery or improvement described and claimed in said letters patent or any material or substantial part thereof; that, prior to any such invention by said Edmund N. Brown, said invention, discovery or improvement was publicly known to, and used by, others, at places in this country, to wit:

Alonzo A. Warner and Landers, Frary & Clark, at New Britain, Connecticut, and elsewhere.

(d) Because, as defendant is informed and believes, the Majestic Electric Development Company, the plaintiff herein, manufactured, publicly offered for sale and sold electric heaters like or substantially like that shown, described and claimed in the said letters patent No. 1,245,084, in the City and County of San Francisco, in the State of California, and elsewhere, and that such heaters were so sold and were publicly used more than two years prior to the 10th day of July, 1917.

(e) Because, as defendant is informed and believes, one Alfred R. Huntington, formerly of San Francisco, California, now of Riverside, California, was the originator of the electric heater for which said letters patent No. 1,245,084 were granted to Edmund N. Brown, and the plaintiff herein and said Edmund N. Brown surreptitiously and unjustly obtained the said letters patent for that which was in fact invented or originated by another, to wit, the said Alfred R. Huntington, who was using [11] reasonable diligence in adapting and perfecting the same.

12. Further answering, this defendant avers and says that, in view of the proceedings had and taken in the United States Patent Office during the prosecution of the application for the said letters patent No. 1,245,084, the claims forming part of the said letters patent cannot lawfully be construed as covering and embracing any device manufactured and sold by this defendant, or any substantial or

material part thereof, but that said claims, if held to be valid at all, must be so narrowly construed as not to cover or include the devices so manufactured and sold.

13. Wherefore, the said letters patent are null and void and have no effect to secure the plaintiff any exclusive right in or under the subject matter of any of the claims of the said letters patent.

14. This defendant denies that it has done any act or thing, or proposes to do any act or thing, which entitles the said plaintiff to an injunction or to an accounting or to any other relief.

All of which defenses said defendant is ready to further maintain and prove as this Honorable Court shall direct, and it prays to be hence dismissed with its costs in this behalf most wrongfully sustained.

WESTINGHOUSE ELECTRIC & MANU-
FACTURING COMPANY,

By T. P. GAYLORD,
Acting Vice-president.

Solicitor for Defendant.

WESLEY G. CARR,
Of Counsel. [12]

State of Pennsylvania,
County of Allegheny,—ss.

T. P. Gaylord, being duly sworn, deposes and says:

I am acting vice-president of the Westinghouse Electric & Manufacturing Company, the above-named defendant; I have read the foregoing amended answer to the bill of complaint in the suit

of Majestic Electric Development Company, Plaintiff, vs. Westinghouse Electric & Manufacturing Company, Defendant, and know the contents thereof, and the same is true of my own knowledge, except as to the matters therein stated on information and belief, and as to those matters I believe it to be true.

T. P. GAYLORD,
Acting Vice-president.

Sworn to and subscribed before me this first day of May, 1920.

[Seal]

E. E. LITTLE,
Notary Public.

My commission expires at end of next session of Senate.

[Endorsed]: Filed June 9, 1920. Walter B. Mal-
ling, Clerk. [13]

(Order Designating Judge Dietrich to Sit in This Court.)

WHEREAS, in my judgment the public interest so requires, I hereby designate and appoint the Honorable FRANK S. DIETRICH, United States District Judge for the District of Idaho, to hold the District Court of the United States for the Northern District of California, during the months of August and September, 1920, and to have and exercise within said district the same powers that are vested in the judges thereof.

WITNESS my hand hereto this 23d day of August, 1920.

W. B. GILBERT,
Senior Circuit Judge of the Ninth Circuit.

[Endorsed]: Filed Aug. 24, 1920. W. B. Maling,
Clerk. [14]

At a stated term, to wit, the July term, A. D. 1920, of the Southern Division of the United States District Court for the Northern District of California, Second Division, held at the courtroom in the City and County of San Francisco, on Monday, the 4th day of October, in the year of our Lord one thousand nine hundred and twenty. Present: The Honorable MAURICE T. DOOLING, District Judge.

No. 493—EQUITY.

MAJESTIC ELECTRIC DEVELOPMENT CO.

vs.

WESTINGHOUSE ELECTRIC & MNFG. CO.

(Order Dismissing Bill, etc.)

In accordance with the opinion of Honorable Frank S. Dietrich, United States District Judge for the District of Idaho (before whom this suit was heretofore tried), which said opinion is this day filed, it is ordered that the bill herein be and the same is hereby dismissed, with costs to defendant, and that a decree be signed, filed and entered accordingly. [15]

18 *Majestic Electric Development Company vs.*

In the United States District Court, Northern District of California, Second Division.

No. 492.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

No. 493.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

No. 499.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Plaintiff,

vs.

HOLBROOK, MERRILL & STETSON, a Corpo-
ration,

Defendant.

(Opinion Dismissing Bill.)

JOHN H. MILLER, Attorney for Plaintiff.

WESLEY G. CARR, DAVID L. LEVY, NA-
THAN HEARD, and SAMUEL KNIGHT,
Attorneys for Defendants. [16]

DIETRICH, District Judge:

Four suits for infringement (numbers 492, 493, 499 and 544) were tried consecutively, in a large measure upon the same evidence, and have now been submitted upon the same argument. In each of them the Majestic Electric Development Company is the plaintiff; the Westinghouse Electric & Manufacturing Company is the defendant in numbers 492, 493 and 544, and Holbrook, Merrill & Stetson in 499. Numbers 492 and 499 are for infringements of United States design patent No. 51,043, issued July 17, 1917, to the plaintiff company, as the assignee of Edmund N. Brown, patentee, whose application therefor was filed May 28, 1917. Number 493 is for infringement of mechanical or utility patent numbered 1,245,084, issued by the United States on Oc-

tober 30, 1917, to the plaintiff, as the assignee of Edmund N. Brown, patentee, whose application therefor was filed July 10, 1917. And number 544 is for infringement of design patent numbered 51,253, issued by the United States on September 11, 1917, to the plaintiff, as assignee of Edmund N. Brown, patentee, upon an application filed July 10, 1917. Hence three patents are in suit:

Design patent No. 51,043, applied for May 28, 1917, issued July 17, 1917.

Design patent No. 51,253, applied for July 10, 1917, issued September 11, 1917.

Utility patent No. 1,245,084, applied for July 10, 1917, issued October 13, 1917.

All of the patents relate to a portable electric heater or its casing, and cover substantially the same device. It will be more convenient first to dispose of the suit involving the utility patent. The claims are as follows:

“1. An electric heater, comprising a concavo-convex reflector, a heating unit supported at substantially the focus of said reflector, an annular member extending outwardly from [17] the margin of said reflector, and a protective cage having guard wires arched between opposite sides of said annular member.

2. An electric heater, comprising a concavo-convex reflector, a heating unit supported at substantially the focus of said reflector, an annular member extending outwardly from the margin of said reflector, and a protective cage of arched guard wires hinged to said annular member so

that it may be swung outwardly from the reflector.

3. An electric heater, comprising a concavo-convex reflector, a heating unit supported at substantially the focus of said reflector, a concavo-convex casing extending over the convex side of said reflector and spaced therefrom except at the margins, said casing having an annular portion extending outwardly from the margin of said reflector, and a protective cage having guard wires arched between opposite sides of said annular portion.

4. An electric heater, comprising a concavo-convex metal reflector, a heating unit in space relation thereto, said reflector being provided with apertures having their margins bent to form flanges, insulating means upon either side of said flanges, and connecting devices extending through said insulating means and connected to the terminals of said heating unit."

In the specifications we are advised that the invention relates to improvements in electric heaters, in which the heat rays generated by a resistance coil or heating unit are reflected from a highly polished surface, and, further, that one of the main purposes of the invention is to provide means by which the highly heated portions of the device are inclosed by protecting members. While the phrase "beam heater" is not used in the application for patent, the device is so referred to and characterized in the trade. The purpose thereof is by reflection to concentrate the radiant energy upon a comparatively

small area, and thus to furnish the desired measure of heat within [18] the range of the "beam," without the necessity of heating to so high a degree the entire space in the room. Admittedly an ideal beam, of substantially parallel rays, cannot be realized, and the various devices used for the purpose only approximate such a result, some more closely than others. It is also well understood that the physical laws relating to the reflection of heat are the same as those pertaining to the reflection of light.

The position of the plaintiff is that the invention disclosed by the patent in suit is generic, and that thereby Brown introduced a broad fundamental idea theretofore unknown in the art, whereas the defendant contends that he only embodied a familiar conception in a slightly different form of mechanism. Correctly, it is thought, counsel for the plaintiff so defines the underlying issue, and unless in that respect its position is sustained it cannot succeed. Considerable testimony, it is true, was offered to show that certain members of the defendant's heater are the functional equivalents of similar parts of the patented device. But if the patent is held to cover, not a generic idea, but only minor improvements in a known mechanism, there is no infringement. It is possible, of course, to characterize the turned-over edge of the defendant's reflector as a flange, and to find that in a slight degree it performs the function for which the annular member or flange illustrated in the Brown patent was designed, but such an effect is merely incidental. Its primary purpose is to give to the reflector strength and a finished

appearance. It is to be observed that the reflecting member of the plaintiff's heater also has a turned-over edge, so that if we eliminate the annular flange we still have a reflector very closely corresponding to the reflecting member of the defendant's heater, including the turned-over edge, and hence the novelty or patented feature in the Brown device, namely, the broad [19] flange, to which the claims doubtless relate, is not found in the defendant's heater at all. The correctness of this view may be readily demonstrated by removing the reflector in the plaintiff's heater from its casing and thus separating it from the protective flange.

The defendant's heater has no casing by means of which in the plaintiff's device the back of the reflector is protected, and therefore there can be no contention of infringement in that respect.

There is no novelty in the plaintiff's wire guard or cage, unless it be in the hinging device, and the defendant's guard is not hinged.

If valid at all, the fourth claim must be narrowly construed, for the necessity of insulation and generally the means by which it is accomplished are matters of familiar knowledge, and such novelty, if any, as the claim discloses must be found in the minute details of construction; but in such details the defendant's insulating and connecting devices are substantially different.

If, then, the plaintiff can succeed only upon the theory that the invention is generic, is such a theory tenable? Admittedly the language employed in the patent application does not aptly express a claim of

that character. Nowhere does the applicant suggest the view that he has discovered the principle of a "beam heater," or any broad, fundamental idea in relation thereto. Upon the other hand, there is an implied recognition of the fact that the principle has already found expression in the art. One of the main purposes of the invention, the application declares, is to provide, not a beam heater or a beam of radiant energy, but the means for enclosing and protecting the highly heated members of such a heater. And when we consider the prior art, with which Brown was doubtless familiar, [20] the reason for limiting his claims to minor improvements, and particularly to protective devices, becomes apparent. He was at the head of the plaintiff company, which at the time was actively engaged in manufacturing and marketing beam heaters, under the Shoenberg patent, of which it was the assignee. (United States No. 1,109,551, issued September 1, 1914.) And it is difficult to resist the conclusion that, when the plaintiff's heater No. 7, illustrated in the patent in suit, was first put on the market in 1916, the plaintiff understood and assumed that it was protected by the Shoenberg patent. That in so far as concerns the general principle or generic idea this patent anticipates the one in suit is scarcely open to question. The invention is described as relating to electric heaters or radiators in which, as here, "the heat waves generated by resistance coil are directed by a polished metal reflector." Even in certain details now emphasized by the plaintiff there is substantial identity, for Shoenberg also provided both a wire

guard for the front and a protective casing for the back of the reflector. Distinction is sought to be made because the reflector illustrated in the Shoenberg patent differs in contour from the one illustrated in the Brown patent, but admittedly this difference is not of the essence. The latter also differs from the one used by the defendant, in that the one is hemispherical and the other parabolic. It is not a question of the specific form illustrated, but of the principle involved and the scope of the claims of the patent, and it would hardly be contended that one manufacturing a device in all other respects like that illustrated in the Shoenberg patent could escape a charge of **infringement** by showing that he used a purely parabolic reflector. That patent is broad enough to embrace either a parabolic or hemispherical reflector. It refers to the reflector merely as a "reflector," without specifying the form, or as being "dome-like," or "hemispherical," or as having an "inner concave surface." But it discloses [21] the purpose and principle or generic idea quite as clearly as does the patent in suit, and if it does not fully anticipate the latter, it is only because of the wide annular flange in the later device and possibly certain details in the matter of insulating the conducting wire and connecting it with the resistance coil. One has only to glance at the photograph (Defendant's Exhibit "E") of plaintiff's exhibit at the Panama Exposition to see how fully the general principle of such a heater had already in 1914 found expression in the art. It is true that the types of reflector illustrated in the Shoenberg patent and em-

ployed by the plaintiff prior to the patent in suit created a less perfect beam, but the difference is in degree only. In this respect the defendant's heater is an advance upon the one put out by the plaintiff under the patent in suit. But aside from the Shoenberg patent, the principle is clearly disclosed in the earlier patents and in the prior art. In English patent No. 12,320, Kempton claimed that by the use of a reflector of "parabolic or conical shape," located in a fireplace or in open space, for the purpose of throwing the heat into the room, gas could be used for heating purposes as cheaply as coal. He shows a gas jet in the same relation to the reflector as here the resistance coil. The principle is suggested in the Morse patent (United States No. 881,017, March 3, 1908), illustrating a device for applying heat to a portion of the body, to be used in the practice of therapeutics. In the English patent for the "Simplex," (No. 19,971, September 4, 1914), there is a very complete disclosure. True here again the reflector illustrated has the configuration of a cone, but the inventor's preference for this form seems to rest upon considerations of economy of construction. He adds that it may be "parabolic or the like contour." The heating element both in form and in its relation to the reflector closely resembles that [22] of the defendant's device, and the front of the reflector is fitted with a wire guard. The object of the invention we are informed "is to provide an apparatus of convenient form in which the radiant heat issues in the form of a condensed beam of rays, divergent, approximately parallel, or convergent, as

the case may be, and adapted to be pointed in any desired direction, horizontally or vertically." It would be difficult to state the principle more clearly or comprehensively. This device was manufactured and generally advertised before the Brown application was filed. Material also are the Warner patent of December 8, 1914 (United States, No. 1,120,003), and the Geiger patent of August 8, 1916 (United States, No. 1,194,168), and the Taylor patent of November 16, 1916 (English, No. 102,070). Noteworthy also are the "Ferranti Fires," devices in the market and more or less generally advertised as early at least as 1911, as appears from the trade literature offered in evidence.

THE DESIGN PATENTS.

One of these patents covers a casing of the precise form illustrated in the mechanical patent just considered, and the other a casing similar in form, exclusive of the wide annular flange. There could be, and of course is, no claim for size, color, or material, nor, as I understand, does the patent extend to the supporting standard or pedestal, which is of the common telephone type. The patented designs, therefore, relate to the reflector and the protective devices, viewed, of course, in connection with the attendant heater element.

The first design, the one with the wide annular flange (No. 51,043), is not thought to be infringed by the defendant's devices. There are neither reproductions nor colorable imitations. True, there are points of resemblance; so there are also points of resemblance between these devices and the com-

mon telephone and electric fan. In all reflectors, whether for headlights or [23] heaters, there are similarities of appearance. So common is a concavo-convex reflector that the word reflector alone immediately suggests such a device. But taking the heaters here as a whole and excluding from consideration slight differences of detail, there are two important differentiating features: Whatever may be said in support of the view that the turned-over edges of the defendant's reflectors are the functional equivalents of the broad annular flange in the plaintiff's heater, clearly in so far as affects appearance they are wholly dissimilar, and the broad flange is a conspicuous differentiating feature of the plaintiff's design. So of the heater element. As shown by the testimony of one of the plaintiff's witnesses, who first observed the Westinghouse heater upon passing a show-window where it was displayed, this is an outstanding feature in the appearance of the device,—the attention is arrested by it; and the incident so testified to is in accord with my own experience during the course of the trial. When it was necessary quickly to identify the plaintiff's device, grouped as it frequently was with many others in the courtroom, my eyes involuntarily sought the element as the most conspicuous distinguishing mark. If, therefore, we consider the entire assemblage—the reflector, the protective members, and the element—as the design, there is substantial dissimilarity in appearance.

But in the second place, in so far as they are alike, the plaintiff's casings, as well as those of the defendants, are entirely devoid of purely ornamental fea-

tures, either of form or drapery; they are nude utilities. That, of course, is not to say that they are without comeliness. By reason of their simplicity and symmetry and the "glow," they may be pleasing to the eye; but the point is that they are bare mechanisms, no parts or lines of which can be dispensed with or substantially altered [24] without impairing their utility, and one cannot, under cover of a design patent, debar others from employing the mechanical means necessary to give effect to a known and useful mechanical principle, however pleasing to the eye such requisite mechanism may be.

In the third place, unless limited to the precise form illustrated in the drawing, the plaintiff's design is anticipated in prior patents, to some of which reference has already been made, and, in view of the prior art, is without invention. Indeed it is difficult to perceive upon what basis a claim of patentable novelty for No. 51,253, the design without the annular flange, can be predicated. The casing shown is simply a reflector of the most familiar type, old in the art, and without novelty either in configuration or feature. True, upon placing the device of this design as actually manufactured side by side with the heater actually manufactured by the plaintiff under the Shoenberg patent, we have a substantial contrast in appearance, but the contrast is of material, color, and size, and not of form. Make both of the same size and finish them both in nickel or copper, and we have similarity instead of contrast. Who, without having the specific object in mind, would, after observing with reasonable care the drawing of patent

51,253, and thereupon being handed a photograph of the plaintiff's exposition exhibit, say with confidence that the device covered by the drawing is not shown in the photograph? The point is that in the absence of contrasting color or size there is a striking similarity in general appearance. Moreover, the design is almost identical with that shown in Figure 1 of the Taylor patent above referred to. (English, 102,070.) Substantial identity is expressly conceded by counsel for the plaintiff, who, however, contests the priority of the Taylor patent. It is true that while this patent was applied for on January 11, 1916, it was not finally issued until November 15, 1916. It is further true that Brown's "invention," as disclosed [25] in his mechanical patent and his design patent 51,043 (covering the annular flange) was made as early as April, 1916, although the patents were not applied for until the following year. But if there is any evidence that the design invention of patent 51,253 antedates the application, which was filed July 10, 1917, it has escaped my attention. It is not without significance that in the application for the Taylor patent, made before any of the Brown "inventions," the applicant carefully limited her claim with the explanation that she was "aware that it is not broadly new to construct an electric radiator with a resistance wire wound spirally upon a tubular member made of refractory material, such resistance element being mounted in front of a reflector, with a protecting guard in front of the element." In its more conspicuous features the plaintiff's design also closely resembles the Warner device, the parabolic

“Simplex,” and the “Ferranti Fires.” If it be said that the element in the Warner heater distinguishes its general appearance, the answer is that, as already noted, such distinction also exists between the plaintiff’s designs and the alleged infringing devices.

As bearing upon the question of invention in either the mechanical or the design patents, or both, plaintiff puts great stress upon the fact that following the placing on the market of its No. 7 heater (the device with the broad annular flange), there was an increased demand and it soon went into general use, but while the fact is to be recognized as having weight, I have not deemed it sufficient, under all of the circumstances, to overcome the considerations hereinbefore stated. From the record it is manifest that in the period of four or five years immediately preceding the Brown patents there had come to be an unusual and widespread interest in the matter of electric heating. The invention of nichrome wire solved the problem of a dependable and efficient element, but the right to its use was involved in litigation, which [26] was not finally concluded until about the time of the Brown patents. With this question out of the way, heaters began to be put on the market in increasing numbers, and doubtless by means of advertising and the arts of salesmanship, the desire for such heaters was greatly stimulated. In this work the plaintiff was active, but undoubtedly it was to some extent also the beneficiary of the activities of its competitors. It may be conceded that its No. 7 heater was in some degree more efficient than its earlier devices, and was more attractive in

appearance, but, as already pointed out, its attractiveness was due not so much to slight changes in form as to increase in size and more particularly a substitution of the warm copper bowl with suitable trim in the place of the nickel type of heater. Furthermore, in the changes of social and housing conditions and in the rapidly growing tendency to use electrical energy for divers purposes in the home, may doubtless be found contributing causes for the increased demand. But whatever may be the full explanation, such popularity as heater No. 7 may have had and may now have cannot reasonably be attributed merely to the slight change in the contour of the reflector or the addition of the broad annular flange, or to both of these changes.

It is urged that in a measure the present design suits are ruled by the judgments recently procured by the plaintiff in this court against other parties, in actions at law for infringement of the same patents. The causes were tried with a jury, resulting in nominal verdicts for the plaintiff, and while they were pending upon writ of error in the Circuit Court of Appeals the parties made some adjustment, the nature of which is not disclosed, and accordingly, by agreement, the writs were dismissed. Just what effect should be given to the judgments under such circumstances is not entirely clear. It is, of course, not contended that they constitute a judicial estoppel. The judge who presided at the trial, it is true, must have entertained the view that the evidence was sufficient to go to the jury, but there is nothing in the records to indicate [27] what his conclusion

would have been had he been called upon independently to decide the entire issue. I find no difficulty in accepting his views of the law as set forth in his charge; but while it is to be conceded that uniformity of decision in the same tribunal is highly desirable, and to that end, in the case of a doubtful issue, one judicial agency may with propriety defer to a precedent established by another of the same dignity, I am unable to say that here I entertain such doubt as would warrant me in subordinating my own judgment to that of the jury in the other cases, even if it be assumed that the evidence is substantially the same.

There being no controversy touching such general principles of patent law as are involved, I have thought it unnecessary to add to the length of the opinion by stating them. Nor would it serve any useful purpose to review the cited cases. Altogether they are of course, helpful, but no single one can be regarded as a controlling or even highly persuasive precedent upon the real issue, which is comparatively narrow, and more largely one of fact than of law.

For the reason stated, the bills must be dismissed, and such will be the decree in each case, with costs.

[Endorsed]: Filed Oct. 4, 1920. Walter B. Mal-
ing, Clerk. [28]

(Title of Court and Cause.)

Decree.

This cause came on to be heard before the Honorable FRANK S. DIETRICH, United States District

Judge, at the July 1920 Term of court, on the 25th day of August, 1920, and thereupon was thereafter tried from day to day until and including the second day of September, 1920, upon the introduction of evidence oral and documentary, by each party hereto, and upon the argument of counsel; and thereupon after consideration thereof it was, on the 4th day of September, 1920, ORDERED that the bill of complaint be dismissed with costs to defendant, and that a decree be signed, filed and entered accordingly.

NOW, THEREFORE, it is hereby ADJUDGED AND DECREED that said bill of complaint be and the same is hereby dismissed, with costs to defendant to be taxed.

Dated: Nov. 1, 1920.

R. S. BEAN,

United States District Judge.

[Endorsed]: Filed and entered November 1, 1920.
Walter B. Maling, Clerk. [29]

In the United States District Court for the Northern
District of California, Second Division.

No. 493.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY,

Defendant.

Stipulation in Re Statement of Evidence on Appeal.

IT IS STIPULATED AND AGREED by and between the parties to the above-entitled suit, that the annexed statement of evidence on appeal is true, complete and properly prepared, and that, under Federal Equity Rule 75, the same may be approved by the Honorable MAURICE T. DOOLING, Judge of and holding Court in the District Court of the United States for the Northern District of California.

Dated: December 16th, 1920.

JOHN H. MILLER,
Attorney for Plaintiff.

WESLEY G. CARR,
DAVID L. LEVY,
WALTER SHELTON,
Attorneys for Defendant.

IT IS ORDERED that the annexed statement of evidence in the above-entitled suit be and the same is hereby approved.

M. T. DOOLING,
Judge of the United States District Court for the
Northern District of California.

Dated: December 17, 1920. [30]

In the Southern Division of the United States District Court for the Northern District of California, Second Division.

No. 493.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MFG. CO.,
Defendant.

**Statement of the Evidence Under Equity Rule 75 for
the Purposes of Appeal**

This case came on for trial on August 26th, 1920, in the above-entitled court at the City and County of San Francisco, State of California, before Honorable FRANK S. DIETRICH, United States Judge for the District of Idaho, John H. Miller, Esq., appearing as attorney for plaintiff, and Wesley G. Carr, Esq., and David L. Levy, Esq., as attorneys for defendant.

John H. Miller made the opening statement on behalf of plaintiff, and Wesley G. Carr made the statement on behalf of the defendant, and thereupon the following proceedings were had.

Plaintiff offered in evidence original United States Patent, No. 1,245,084, dated October 30, 1917, issued to Majestic Electric Development Company as the assignee of Edmund N. Brown upon an application filed July 10, 1917, and the same was marked "Plaintiff's Exhibit 1."

Plaintiff also offered in evidence an electric heating device as illustrative of the patent in suit, and the same consisted of the Brown No. 7 heater, which had been offered in the previous case, No. 492, between the same parties, and the same was marked "Plaintiff's Exhibit No. 2." [31]

Plaintiff also offered in evidence an electric heating device which had been produced and put in evidence in the prior case, No. 492, between the same parties, and the same was marked "Plaintiff's Exhibit No. 3."

Plaintiff also offered in evidence an electric heating device which had been produced and put in evidence in the prior case, No. 492, between the same parties, and the same was marked "Plaintiff's Exhibit 4."

Plaintiff also offered in evidence an electric heating device which had been produced and put in evidence in the prior case, No. 492, between the same parties, and the same was marked "Plaintiff's Exhibit 5," said device being there described as a Westinghouse heater.

It was stipulated that the following testimony of the witness Edmund N. Brown, Milton H. Shoenberg and J. R. Hiller which had been taken in the prior case, No. 492, between the same parties, should be received in evidence herein with the same force and effect as if originally taken herein.

Testimony of Edmund N. Brown, for Plaintiff.

I am 43 years of age and I reside at San Francisco; I am the president of the Majestic Electric

(Testimony of Edmund N. Brown.)

Development Company, plaintiff in this suit. Its place of business is at 656 Howard Street, San Francisco, California, and consists in manufacturing Majestic Electric Heaters and Majestic appliances. I am the Edmund N. Brown referred to in the patent in suit, and I herewith produce one of the samples of the device referred to in that patent and marketed by the plaintiff. The tag attached to said device shows that it was offered in evidence by the plaintiff in a prior suit in this court of the Majestic Electric Development Company vs. Holabird Electrical Company, No. 16,100, where it was marked "Plaintiff's Exhibit No. 2." Thereupon the said device was offered and received in evidence and marked [32] "Plaintiff's Exhibit No. 2, Brown Patented Device," which said device is hereby referred to and by such reference made a part hereof.

(The witness continues:) My company, plaintiff, has placed these devices upon the market in a commercial way. The trade name I gave to this article which has been put in evidence as "Plaintiff's Exhibit No. 2" is "No. 7," and that is the name by which we sell it and by which it is generally known. The first commercial sale of that device was made by us in October, 1916, to Holbrook, Merrill & Stetson, in Los Angeles, California, and almost simultaneously to Harper & Reynolds of Los Angeles. We sold 500 of the devices to each of said firms; the devices so sold were the same as the model here "Plaintiff's Exhibit No. 2." The Boesch Lamp

(Testimony of Edmund N. Brown.)

Company of San Francisco manufactured the various parts of these devices for us with the exception of the electrical parts. We made the electrical parts and assembled the devices. Prior to this sale and shipment in October, 1916, I had made up a sample of the device in the early part of 1916, and I have an invoice under date of April 4, 1916, showing the same. The device so made at that time was identical with exhibit No. 2 except that it had a blue finish instead of a red finish, that is to say, the back of the heater, the base and the stem were colored blue, whereas those portions of exhibit 2 are colored red. With that exception the device made up by me in April, 1916, was identical with exhibit 2. I went East in April, 1916, first going to Canada, afterwards to New York and Philadelphia. I took the heater which I made in April, 1916, with me and showed it to people to figure on its cost of manufacture. I went to several people with that idea and got prices from them as to what they would charge to manufacture the device. The headquarters were in New York, and we opened a plant in Philadelphia that year. I was east on that trip about four months. I first went to Canada and showed the device up there, then I went back to [33] New York and showed the machine where I solicited bids for the cost of manufacture. I then went to Philadelphia for the purpose of opening up a plant there and subsequently made arrangements to open up said plant, and did open up the same and it has been operating to this day. We manufactured these

(Testimony of Edmund N. Brown.)

heaters there and sold them all over the Eastern territory and foreign countries. I returned to San Francisco in August, 1916, and immediately arranged with the Boesch Lamp Company for dies to be made so that we could manufacture these heaters in quantities; the Boesch Company has continued to make them ever since for us, and they make them for us now. The devices which we sent to Los Angeles in October, 1916, gave general satisfaction so far as I could see, and after that we made and sold them during the remainder of the year. Our first order to the Boesch Lamp Company was for 5,000 and we made 2,000 in addition thereto. During the remainder of the year 1916 we made and sold some 7,000 or 8,000 of the devices covering the entire territory of the United States and foreign countries. We continued to manufacture them in 1917, 1918, 1919 and 1920, and have been manufacturing them ever since. During that period I should say roughly speaking, we have sold in the neighborhood of 350,000 or 400,000; that is an approximation. We also manufactured some at Philadelphia. We also had an office in Kansas City. Plaintiff is now manufacturing them both at Philadelphia and San Francisco. After the sale of the first thousand in October, 1916, the demand increased very much, and the business is now a large one extending generally over the world, you might say. We send them into practically every foreign country, China, Japan, New Zealand, Australia, Spain, France, Great Brit-

(Testimony of Edmund N. Brown.)

ain, Italy, Denmark and South American countries—practically all countries.

I am familiar with the former suits which were brought in this court by the Majestic Electric Development Company against the Holabird Electrical Company and Hale Brothers, Inc., with reference to infringement of this patent, and am familiar [34] with the devices which were used in that case and testified to as being and decided as being infringements of the patent in suit, and can pick out the same from the exhibits now present. (Here the witness picks out from the exhibits before him and used in the said identified cases two exhibits and the same were thereupon offered in evidence and marked respectively "Plaintiff's Exhibit No. 3" and "Plaintiff's Exhibit No. 4.")

I am familiar with the device put on the market by the Westinghouse Electric & Manufacturing Company, defendant herein. I think it was in 1918 that I saw the first one. I have one of those devices here which was put in evidence in the prior litigation and marked "Plaintiff's Exhibit No. 17, Westinghouse," and I here produce it. (Such exhibit was then offered and received in evidence and marked "Plaintiff's Exhibit No. 5, Westinghouse Device.")

I have seen the Westinghouse device on sale in various stores in different parts of the country.

(The witness continued:) When we commenced to sell our No. 7 heaters, the price was \$7.50, and the present price is \$11. After the issuance of the pat-

(Testimony of Edmund N. Brown.)

ent in suit we marked our No. 7 heaters with the date and number of the patent.

Cross-examination of the Witness BROWN.

On cross-examination, the witness Brown testified as follows: The price of our No. 7 heater is determined by two factors; one is the license agreement with the Hoskins Company the patentees of the resistance wire which we use, who placed a minimum charge on heaters of this type, and the second is the cost of manufacture. Our company has a license from the Hoskins Company under the Marsh patent for the alloy wire. We do not use nichrome; we use what is manufactured by Hoskins and called chromel A. Nickel chrome alloy would be more correct. [35] We have been operating under license from that company for the Marsh patent I think since the fall of 1916. It was on my eastern trip in 1916 that we were granted a license.

Our recent No. 7 heaters are provided with a name plate bearing the date "Patented September 1, 1914." That refers to patent No. 1,109,551 granted to Majestic Electric Development Company on an application filed by Milton H. Shoenberg bearing this date, September 1, 1914.

Redirect Examination of Witness E. N. BROWN.

On redirect examination said witness testified as follows:

Regarding the license under what has been denominated as the Marsh patent, that refers to this resistance wire which is wrapped around this coil

(Testimony of Edmund N. Brown.)

which we purchased from the Hoskins Manufacturing Company, which company controlled a patent for alloyed wire. It is just the wire itself that is covered by the patent and not the device itself. It is the alloy from which they make this particular kind of wire that is acted upon by electricity in the most advantageous way, whereas a different kind of wire, it seems, would not answer the purpose. The patent covers the alloy. The same resistance wire is used on toasters and in irons, and other electrical devices.

Testimony of Milton H. Shoenberg, for Plaintiff.

MILTON H. SHOENBERG, being duly called as a witness on behalf of plaintiff, testified as follows:

I reside in San Francisco and am 45 years of age. I am associated with the Majestic Electric Development Company whose place of business is 656 Howard Street, San Francisco. I am familiar with plaintiff's heater No. 7 represented by "Plaintiff's Exhibit No. 2." The plaintiff has put that device on the market. They began some time in 1916. I became actively associated with the company in 1917. I remember Mr. Brown going East in 1916. Before he went East I saw the heater which he [36] had and which he took east with him, as testified to by him. After I became associated with the company in 1917, they continued the sale of the No. 7 heaters. I could not say as to the number of heaters sold, because I am not in the sales depart-

(Testimony of Milton H. Shoenberg.)

ment. I am the superintendent, but I do know that there have been extensive sales for these No. 7 heaters extending over the entire world.

Testimony of J. R. Hiller, for Plaintiff.

J. R. HILLER, being called as a witness and duly sworn, testified on behalf of plaintiff as follows:

I have resided at San Francisco, California, about 22 years, and am manager of the Boesch Lamp Company, a corporation located at San Francisco. I am familiar with the Brown heater, known as No. 7, and we have manufactured a portion of these heaters for the Majestic Electric Development Company and for Mr. Brown. We have manufactured a great many for them, I should judge between 100,000 and 200,000. The first one we made was in April, 1916. I have with me the invoice showing the date of April 4, 1916, and I can verify that date from our books. That heater did not differ from Plaintiff's Exhibit 2, except as to a different colored enamel. That portion of Exhibit No. 2 which is of a red tint was enameled blue in the heater referred to; that was the only difference. Mr. Brown went east directly after April 4, 1916, and returned some time about July or August of that year. He sent for me to talk over the production of this heater in quantities and asked estimates as to costs. I gave him estimates, and the result was an arrangement between the two companies for the manufacture of these heaters in quantities. We started in

(Testimony of J. H. Hiller.)

to manufacture an order for 5,000. Of course we had to make tools and it took us a month or two to get those tools into use, but before we had the 5,000 delivered we had other orders. The quantity ran considerably [37] over what we estimated. We manufactured and delivered the first order for 5,000 and after that we delivered 10,000, and continued on up to the present time. We are making and delivering them up to date.

It was admitted by counsel for defendant that defendant had manufactured and sold since the date of the patent the device shown and illustrated by Plaintiff Exhibit 5.

It was also admitted that on July 29, 1919, plaintiff had notified defendant that in its opinion said heater, Plaintiff's Exhibit No. 5, was an infringement of the patent in suit, and requested a discontinuance thereof, and that defendants had denied the charge of infringement and declined to discontinue the sale of said device, and at the time of the commencement of the suit was continuing such sale.

Thereupon plaintiff called as a witness GEO. J. HENRY, who, having been duly sworn, testified as follows:

Testimony of George J. Henry, for Plaintiff.

I have already testified as an expert in the case No. 492, just preceding this one. I have examined the patent in suit, No. 1,245,084, dated October 30, 1917.

The subject of the patent is an electric heater,

(Testimony of George J. Henry.)

and is of the type that is generally called a beam or radiant beam heater. It involves the employment of a source of heat located within a surface upon which the heat rays or radiant rays falling are reflected outwardly in a beam of greater or less divergence. It is a device, ordinarily, of a portable nature, which involves handling, and as the interior part, particularly the heating element, is one which gets very hot, it is necessary to insure the other portions with which one comes in contact against a burning temperature, either for injuring a person or from inflammability of draperies, or anything [38] that may come in contact with it. It also implies a protective device across the path of the issuing beam, to prevent anything coming in contact with the heating element, which would undoubtedly burn or set on fire anything that came close to it. It must have a base, some form of standard to support the several elements that go to constitute the heater. The most important element, if relative importance is permissible, outside of the heating unit itself or resistance wire, is probably the reflector. The reflector in this patent is a concavo-convex type of reflector, within which the heat unit is located at substantially about the focus or focal axis, the radiant energy being received on the surface of that reflector, issues outward, according to well-known law of reflected beams that the angle of incidence is equal to the angle of reflection. The outer portions of the reflector, especially in the smaller sizes, it is more necessary to employ a pro-

(Testimony of George J. Henry.)

protective flange or border from the hot reflector, and from the impact, particularly, if the heat rays. I wish to be understood in employing the term "heat rays," that I do so as a concession to common parlance. The energy from this device is really a radiant energy, which is not heat, and does not become heat except upon its impact upon some absorbing medium, as the skin. There is no direct heat, theoretically, transferred from the resistance unit; it is radiant energy, just the same as a beam of sunlight is radiant energy until it strikes the earth, or your body, and then is transformed into heat, or at least we have the sensation from the impact of the radiant beam, which we call heat; it travels at a high rate of speed, the same as light, and is to be carefully distinguished from heat by convection or conduction. The radiant energy emanating from the resistance wire or heat unit within the reflector strikes all portions of the reflector, and is reflected outwardly according to the curvature of the part of the reflector on which they impinge. The outer margin of the reflector is [39] advantageously turned away, or at such an angle as will prevent the impinging of the said radiant energy, and is therefore not heated as greatly as would be the inner portion. The invention of the patent before me involves such a protective flange. The form of reflector is described as that of a concavo-convex shape, which is well known in the art to mean concave on one side and convex on the other, as applied most frequently to lenses. The concavo-convex reflector is shown by the nu-

(Testimony of George J. Henry.)

meral 1. It is particularly observable in Figure 2. The protection of the outer edges, as I have previously stated, from contact with the hand or the body is more important in the smaller sizes than in the larger ones, because of the greater proximity to the heat unit, itself. The protective features, the annular flange and guard wire also become more important as the size of the heat units or the energy of consumption is increased. The outer portion of the reflector in most of the curves that we find in the art for these reflectors, does not receive a great amount of radiant energy upon it, nor does it reflect as great an amount of radiant energy as that which is received in the more inner portions of the reflector. Various curves may be used for the reflector shape, the important point being the adoption of a curve which will throw out a beam of radiant energy. The beam in all of these heaters is more or less divergent, spreading slightly as it emanates from the reflector. At a distance of 9 to 15 feet, you can instantly feel the heat if the beam is turned upon one or if one walks in front of the heater, as, for example, on the sidewalk, even though the heater may be well inside of the store, or behind a glass window, you can feel the radiant beam; of course, you cannot feel it as readily behind a glass window, but it is there, and you can sense it if you are looking for it. [40] The invention set forth in the patent before me involves, as I say, the several elements, the heat element, primarily, or heat unit, that being an electrical resistance in this case,

(Testimony of George J. Henry.)

the reflector, the protective margin, and the wire front or guard frame as the principal elements.

Taking up the several parts illustrated in the drawings, we find a concavo-convex reflector illustrated by the numeral 1. Beyond the concavo-convex portion of this reflector we find an extension flange, 3a. Across from the outer margins of this flange we find a wire cage or guard wires extending in arched form; the wire cage or guard is hinged as at 26 in Figure 2, whereby it may be swung outwardly, which is obviously for the purpose of getting to the heat unit so that other heat units may be substituted or repairs made therein. The entire device is carried on a standard 4, having a suitable base and electrical connections are made from the cord as 18, Figure 2, to the resistance wire or coil as indicated at 6, 7, 8, of Figure 3. A handle is fitted to the back so as to readily move the device from one place to another. In the particular structure shown, the annular flange, 3a of figure 2 is shown as extending outwardly a considerable distance from the reflector, numeral 1, the heater being of relatively a small size. There is a secondary element or back portion curved, shown at 3, which provides an air space between 1 and 3, in order to prevent the hot portions of the reflector being exposed.

Q. It is stated in the patent that the heating unit is supported substantially at the focus of the reflector. Just briefly state the necessity or desirability of locating the heating unit in that position.

A. The heating element must be located at such a

(Testimony of George J. Henry.)

position that lines or rays of radiant energy emanating from the heating unit striking upon the surface of the reflector will be reflected outwardly in a beam of more [41] or less divergence. That implies a location of the source or radiant energy at or about the focus of the concavo-convex curve. As has been previously stated, it is impossible in practice to make the source of your radiant energy a point, and for that reason the resistance coil is made as small as practically can be made, and is located about the focus, or as approximately near the focus as possible. The result of it being larger than the focal point results in a divergence somewhat of the beam on each side of the limits that it would follow if the beam emanated from the focus as a true point. Mathematically, of any regular curve the focus would be a point, but in these reflectors there is rather an axis on which there are a series of focal points for different portions of the reflector, as a rule. That is, the reflector can very properly have several foci centered along on the axis of the heat element; the heat element should surround the range within which the several foci would fall, or it should be centered around the focus in order to give the best resulting beam, and such is the case in the invention of the patent before me.

Q. The patent also mentions an annular member extending outwardly from the margin of said reflector. How is that designated in the drawings?

A. It is designated in the drawings as 3a. It could just as well be a portion of the metal in which

(Testimony of George J. Henry.)

the reflector is formed. There is a portion of the reflector, numeral 1, which is turned over in Figure 1, and which extends beyond the margin of the reflector, and that, together with the annular base around it, forms the said annular flange, 3a.

Q. The patent also says, "In order to prevent the outer exposed edge of the heater from being heated, I provide the casing with a marginal annular flange 3a." A. Yes.

Q. In what way does that protect the outer exposed edge of the heater from being heated?

A. In that it does not receive any [42] of the radiant energy from the heat unit. It is beyond the range of the rays, which rays are intercepted by the reflector—the surface of the reflector or the edges of the reflector cut off the rays so that they do not strike the margin, 3a. The reflector is heated very largely by the impact of radiant energy thereon, most of which, or a large portion of which, it reflects. It is also heated by conduction of air current from the element 7, which air rising strikes the reflector surface, and heating it in that way by convection, but a very large portion of its heat is through the impact of the radiant energy on the surface of the reflector. If, now, we intercept those rays before they strike the marginal portion, as we do in the invention of the patent before me, we prevent the breaking up of that radiant energy on the annular margin, and it remains cooled in other portions of the heater. It is true that it receives some heat by conduction from the body of the re-

(Testimony of George J. Henry.)

flector, but it does not receive the added increment from the radiant ray, and therefore, remains sufficiently cool to be an adequate protection against damage.

Q. The patent also mentions a protective cage having guard wires arched between opposite sides of said annular member. What significance has that device?

A. That is to protect the clothing or drapery, or any outside article from coming in contact with the highly-heated portion at the center.

Q. The patent also refers to the fact that these arched guard wires are hinged to said annular member, so that it may be swung outwardly, from the reflector. What is the object of that?

A. That is merely to hold the parts together, to simplify somewhat the operation, and to insure the proper protection of the heat portion after the cage has been opened up or the guard wires have been opened up for the purpose of changing or repair the heat elements, or for any purpose, of securing access to the center, and the wire guard is again placed in [43] position. The hinge enables this to be done a little more readily.

Q. Please take the No. 7 Brown heater in evidence and just illustrate how the guard wires can be swung outwardly on a hinge.

A. Yes. It can be swung out like this.

Q. How is that hinge formed?

A. The hinge is formed through the upper flange, so that it may be taken apart entirely; there are

(Testimony of George J. Henry.)

two holes in the outer portion of the annular flange in which two of the wires of the protective cage may be engaged or may be entirely disengaged if it is desired.

Comparing Plaintiff's Exhibits 2 and 5, I find in each a heating element or electrical resistance wire formed on a heat resistance insulated core of substantially the same dimensions in each heater, and of substantially the same electrical resistance within, probably, 10 per cent, as regards the resistance; and within a very few per cent, as regards dimensions. In both heaters, said element is located about the focus or foci, if there is more than one curve to the reflectors, which I do not believe to be the case. The reflector in exhibit 5 is of larger dimensions; that is, it is larger in its circular diameter and in its depth than is that of exhibit 2. The annular flange extending beyond the reflector is smaller in exhibit 5 than it is in exhibit 2. The guard wires protecting the heater in each instance of these exhibits are slightly different in curvature, but substantially the same as regards distance from the heat element, and protection provided from the said heat element. There appears to be a difference in the curvature of the reflectors, exhibit 5 appearing to be a segment of a circle of $7\frac{1}{2}$ or 8 inches radius, and exhibit 2 appearing to be that of a parabole. Both of them are concavo-convex reflectors of a polished copper surface, either made of sheet copper or other metal copper plated. Both are mounted upon [44] a base and standards, exhibit

(Testimony of George J. Henry.)

5 being mounted to a swivel, so that the beam directed therefrom may be varied in angular elevation, whereas that of exhibit 2 is fixed, and, therefore, the beam being directed upward at an angle of possibly 20 degrees. The wire guards in both of these heaters are formed around a circular frame or ring, and that in exhibit 2 is connected to the outer portion of the annular flange by having two of these wires bent over and having one of the wires arranged at the bottom of the cage to lock it with said annular flange, whereas in the case of exhibit 5 three of the guard wires are extended out a short distance, and connect with the annular flange by being sprung into holes therein in the same manner that one of the wires in exhibit 2 springs into the hole. A comparison in the manner of fastening the guards in the two exhibits discloses three points of holding in each, consisting of three of the guard wires extended beyond the annular ring to which they are fixed. Two of those wires in exhibit 2 are bent to engage the cage or guard wires at all times with the annular ring, whereas in exhibit 5, while it may be freely swung about one of these guard wires, it may also be removed, the loop on the guard wire of exhibit 2 having been cut off or not formed in the case of one of the guard wires in exhibit 5.

A noticeable difference appears between these two heaters in the manner of locating the heating unit. While in both of them it is about the focus or foci of the reflectors, and therefore, performs

(Testimony of George J. Henry.)

substantially the same function, or does perform the same function, but in a slightly different way, and to a slightly different degree in the two of them, the outer appearance of the location of the heating unit, because of its location, is materially different. In case of exhibit 5, the beam which is thrown out at any point in its [45] cross section will be substantially circular and of equal intensity at the same distance, and direction from the axis of the reflector curvature, whereas in exhibit 2, due to the manner in which the heat element is placed transversely with respect to the axis of the reflector, but, nevertheless, enclosing or containing within itself the focus of the reflector, its beam will be laterally divergent or spread out sideways more than in the case of the beam from exhibit 5. The result is that it will heat to the same degree of intensity a wider space. For example, it would undoubtedly cover the width occupied by two parties at a point 10 feet, for instance, with the same intensity that the beam from exhibit 5 would heat one individual; not that there is more heat emanating from it, although it does indicate that there is a slightly greater intensity to the beam, but that the beam is spread sideways and flattened in a vertical direction as compared with exhibit 5, which will throw a circular beam, or a conical-shaped beam. If we picture such a conical beam at a distance of ten or fifteen feet from the heater, and then suppose that to be elastic and flattened with your hand at the top and bottom, it would naturally spread out sideways

(Testimony of George J. Henry.)

without requiring any more radiant energy from the heater. That is what is attained by the location of the heat element on a line transverse to the reflector axis. The electrical connections to the heat unit are in the case of exhibit 2 through two holes in the back of the reflector, one for each of the conductors, each conductor passing through its corresponding hole, and being insulated therefrom substantially, if not exactly, in the manner shown in Figure 4 of the patent in suit; whereas in the case of exhibit 5, the back of the reflector is punctured with a hole of considerable size, which hole is flanged over, and insulation means are passed through the hole and retained against the flange, and [46] between the flange, the loose thimble piece previously testified to, forming one of these flanges, and the insulation base has imbedded or fixed therein the two conductors which are connected with the terminals of the resistance wire of the heater unit. I have examined the curvature of a machine like exhibit 5 to determine what kind of a geometric curve that is. The curve is that of a circle of $7\frac{3}{4}$ inches radius, possibly 8. The curvature of the reflector in Plaintiff's Exhibit 2 is a parabola. Both of them are concavo-convex reflectors, and both perform the same functions in substantially the same way. As to the mounting of the elements, in exhibit 5, it is mounted axially, whereas in exhibit 2 it is mounted transversely, but that difference in mounting has affected no difference whatever in the mode of operation of the

(Testimony of George J. Henry.)

device, the heater unit being about the focus in each case.

Q. Would it be proper to speak of a curve such as shown in exhibit 5, having a focus?

A. Well, it is in the sense that we are here discussing radiant energy emanating from the heat unit, the focus in that case not being the center of curvature; it is probably much more correct to speak of the direction which a radiant beam will take when reflected from the curved surface and originating at the heat element in each case; considering it from that point of view, I might say that if the heater element in exhibit 5 were reduced to a length of not to exceed one inch and a diameter of not to exceed probably $\frac{3}{16}$ ths or a quarter of an inch, which is impossible with the means available for such a construction at the present time, you would then get a very regular and quite satisfactory parallel beam from the heater, exhibit 5; it would probably be necessary to obtain an equivalent beam from heater 2, to employ a heater element about one-half inch long and one-half inch in diameter; but if we could get down to those small dimensions in those two heaters, we would get a very well-defined beam; as it is, we approximate that as [47] closely as we can practically. The resistance wire necessary to secure the requisite expenditure of energy or the development of the radiant energy that we want in these heaters must be of material dimensions, and the heater unit in both of these exhibits has to be as small as can be

(Testimony of George J. Henry.)

commercially made, with such limitations, and given a heating element of this size, the beam which results from the reflectors in these two cases is very distinctly directed in an axial direction; it has a greater intensity at some points with one heater than with the other. It is wider in the case of the beam from exhibit 2 than exhibit 5, although it does not extend to as great an elevation or height in the case of exhibit 2 as it does in the case of exhibit 5. Its intensity on the axial line is greater in exhibit 2 than in exhibit 5, and it also spreads a little greater. On the two heaters similar to exhibits 2 and 5 which I examined, the watt consumption was about 10 per cent greater in exhibit 2 than in exhibit 5. Both heaters throw very decided and well-defined beams tapering off on their edges or borders to rapidly reducing temperatures. When I say "temperature" again, I wish to be understood as referring to the sensation of temperature on the body, or thermometer, or by radiometer, not to actual heat, because heat is the result, always, of the impact of the radiant energy as previously described.

Q. Have you tested out these heaters in actual practice for the purpose of noting their mode of operation and the results produced?

A. I have tested out duplicates of them, substantial duplicates of these, about the same as regards all intents and purposes to these; a slightly different structure as to the manner of attaching the heating element through the reflector, in the one which I previously examined.

(Testimony of George J. Henry.)

Q. What did you find from those tests as to the results produced by the two devices and the similarity of mode of operation by which that result was produced?

A. They both produced [48] substantially the same result in substantially the same manner, by substantially the same means. In each instance you have the heat element in the reflector and the beam created thereby, and the beam is one which develops instantly the sensation of heat when you pass in front of it; the angle at which the heater of exhibit 5 is usually seen in windows is adjusted to practically the same degree of the permanent adjustment of exhibit 2. The heating elements themselves are almost exactly duplicates of each other in appearance and function.

Q. Referring now to exhibit 2, the patent speaks of an annular member extending outwardly from the margin of the reflector, and "in order to prevent the outer exposed edge of the heater from being heated I provide a casing with a marginal annular flange 3a." Just explain from the model how that annular flange is protected from being heated to the same extent as the rest of it?

A. If we think of the radiant energy coming from the heater unit located within the reflector in these two exhibits as being light, it is seen at once that the annular flange in both exhibits would fall in shadow; it would not receive the impact of the light rays emanating from the heat unit, and, therefore, it does not receive the impact of the

(Testimony of George J. Henry.)

radiant rays; it does not get as hot as the other portions of the reflector. Of course, in both cases the heat is conducted by the metal itself to the outer edges to the same extent, but the whole object of the annular flange is to prevent contact with excessively hot portions, and the flange in both of these heaters is in the shadow of the radiant rays and is not heated to such a degree as to burn one or occasion any great inconvenience.

Q. How does radiant energy heat a body or object?

A. We do not know exactly how it does it, but we know it does it. When a wave of radiant energy strikes a material [49] mass it heats it just exactly like the sunshine heats the railroad track a good deal hotter than the ground around.

Q. You mean that the radiant energy must strike the body?

A. That is the theory, that the waves of radiant energy strike the body, yes.

Q. In the case of the plaintiff's reflector, is that the way the reflector part is heated?

A. That is the way the reflector part is heated; also it would receive some heat by air currents.

Q. We will eliminate those.

A. Eliminating air currents, that is the way it is heated.

Q. That is the radiant energy proceeding from the element strikes or impacts against the reflector, itself. Is that correct? A. That is correct.

Q. And then that reflector causes the radiant

(Testimony of George J. Henry.)

energy to be reflected outwardly at the same angle at which it is received?

A. Yes, but the energy which is reflected out is not the energy which has done the heating. The heat is the deficiency of reflection. If you had a perfect reflector, it would not get hot; that portion of the rays or percentage of the rays which is broken up and lost results in heat in the reflector, and that part which is reflected heats other objects.

Q. In other words, you cannot reflect the entire radiant beam that comes from the element because some of it is, you might say, absorbed by the reflector? A. That is correct.

Q. That heats the reflector?

A. That is correct.

Q. In the case of the annular marginal flange, 3a, in plaintiff's device, does that receive the impact of the radiant energy from the element?

A. It does not in either of the exhibits before me.

Q. It is arranged mechanically so that the rays will not strike it. Is that the idea?

A. Yes, that is correct.

Q. In other words, there is no impacting of radiant energy [50] upon that flange?

A. That is correct.

Q. And, therefore, that flange is less heated than the reflector, itself? A. That is correct.

Q. You have tested that out in practice to see if that is correct?

A. I have. I can show you that experimentally here in about two minutes, I think.

(Testimony of George J. Henry.)

Q. We will defer that till later. Now, take the Westinghouse heater, Plaintiff's Exhibit 5, and state what, if anything, you find there corresponding to that marginal annular member, 3a of plaintiff's device.

A. I find a flange turned over at a material width, probably $7/8$ ths of an inch of the copper reflector turned over, forming a curved rim.

Q. In the case of the plaintiff's device, the flange is flat, I assume.

A. The flange is turned over on two flats, and then a second flange is extended out about $1\frac{1}{4}$ or $1\frac{1}{2}$ inches.

Q. You call that whole thing the annular member?

A. I do. All of that annular portion beyond the reflector surface is unquestionably the annular member.

Q. In plaintiff's device, the reflector, proper, is turned over, and then is supplemented by the flat portion, 3a? A. Yes.

Q. Now, in the case of the Westinghouse heater, do you find a marginal flange there?

A. Yes, I find a marginal flange made as a part of the reflector, itself, as a part of the reflector element, but not a portion of the reflector surface; it extends out beyond the reflector surface, and therefore, is not heated by the radiant energy.

Q. It is a curved flange?

A. It is curved over, yes; that is merely a detail of construction; either one would be equally as good,

(Testimony of George J. Henry.)

whether it were curved or flat.

Q. Now, do the rays emanating from the element strike or impact directly upon this curved flange in the defendant's device?

A. No—they may on the extreme—no, they do not at all.

Q. What is the result of that?

A. The result of that is a cooler portion of the reflector. [51]

Q. That is, the flange is the cooler portion of the reflector?

A. Is the cooler portion of the heater, although formed as an extension flange on the reflector.

Q. Does that prevent the outer exposed edge of the heater from being heated up? A. It does.

Q. Is that the same purpose that is accomplished by the plaintiff's corresponding device?

A. Exactly the same purpose.

Q. Have you tested this thing out in practice to see whether that flange in the defendant's machine is cooler than the other portions of the reflector?

A. I have.

Q. What did you find?

A. I found that it was cooler.

Q. Now, Mr. Henry, just take the Westinghouse heater there before you, and while I read some things here, I will ask you whether or not you find that or do not find that in the Westinghouse heater, or if not in the same form, in what form, if any. The first is, "An electric heater." Do you find in the Westinghouse heater an electrical heater?

(Testimony of George J. Henry.)

A. I do.

Q. "Comprising a concavo-convex reflector." Is that there? A. That is present.

Q. "A heating unit supported at substantially the focus of said reflector." Is that there?

A. That is there.

Q. "An annular member extending outwardly from the margin of said reflector"; is that there?

A. Yes.

Q. What does that annular member consist of?

A. It consists of a rolled-over or turned-over portion of the metal on which the reflector surface is formed.

Q. "And a protective cage having guard wires arched between opposite sides of said annular member." Do you find them. A. I do find them.

Q. In the Westinghouse device do you find a heater unit in the spaced relation to the concavo-convex reflector? [52] A. Yes, very clearly.

Q. State whether or not you find any device there corresponding to the aperture in the reflector having their margins bent to form flanges, insulating means upon either side of said flanges, and connecting devices extending through said insulating means and connected to the terminals of said heating unit?

A. I find a single aperture of relatively much larger size in exhibit 5 as compared with exhibit 2, through which I find a single insulating means in which is carried the two conductors, and which is retained in position by flanges or flange members

(Testimony of George J. Henry.)

holding the said insulating means to the said reflector, in exhibit 5.

Q. And in plaintiff's device I understand there are two of these apertures?

A. Two apertures, one for each conductor, in exhibit 2, as distinguished from two conductors in a single aperture in exhibit 5.

Q. And in defendant's device these have been consolidated into one aperture?

A. Into one large aperture.

Q. Is there any different result produced by that change in mechanical construction?

A. None, whatever.

Q. The two devices operate, then, in substantially the same way and give substantially the same result? A. They do.

The COURT.—Q. I want to ask a question. What is meant mechanically by the term "spaced relation"?

A. Well, the globe of that lamp is in spaced relation in respect to your desk, it is held away, it is not permitted to come in contact with it.

Q. It simply means it is not in contact?

A. It means it is retained at a distance from. You find it more in patent practice than you do in mechanics *per se*. [53]

Cross-examination of Mr. HENRY.

The use of the point of light or heat, if practically feasible and located at the focus of the parabolic reflector would project light and heat rays against that reflector which would be reflected in parallel

(Testimony of George J. Henry.)

lines. There is a parabolic focus in a spherical reflector, or the equivalent of it, in the sense that a parallel beam would be produced from a single point. If your source of heat were located at the center of a sphere of which the reflecting surface is a segment or part, the light rays would be reflected back to the center, back upon themselves. May I explain that a little further?

Q. I don't think that is necessary. If a heating unit could be concentrated at the focus in a parabolically-curved reflector, and that reflector were burnished—polished, to approximate perfection, would there be any substantial heating of that reflecting surface?

A. Yes, I think there would, for the reason that there is always some breaking up of the radiant rays. I don't care how frequently you polish that copper surface, it would still absorb some of the radiant energy and get materially hot. That becomes even more true after the heaters are old and become tarnished somewhat; the heat reflection is not as complete. As regards the matter of heating the reflector, if the heating element is symmetrically located with reference to the reflecting surface, broadly speaking, the more rays received upon the reflecting surface, or any unit of the reflecting surface, the hotter will that particular surface get, other things being equal. It follows that if you locate a heat unit in such a way that not as many of its rays will get to the reflector, then that reflector will not get as hot. If the heat unit be located so that the

(Testimony of George J. Henry.)

rays do reach the reflector, or more of them reach the reflector, it will get hotter. The heat is directly proportional to the impacting ray, other things being equal, [54] just exactly as it is with the impacting ray on your body from a distance. Whatever the reflector receives it takes its proportion of it, breaks it up and indicates heat. I might say that if some portions of your reflector received more of the rays than other portions, those portions of the reflector will get hotter. With a given quantity of energy over a given area, it is true that if there is less on certain portions than others, those portions would be less heated.

Referring to the patent in suit, I do not believe that the patentee specifies particularly what is the function of the turned-over edge of the reflector 1 shown in Figs. 2 and 5. It forms a part of the annular flange member for cooling, but I think its principal function is to make a mechanical joint of proper appearance with the extended portion, 3a.

Q. As a mechanical engineer, you doubtless know that it is usual and customary in sheet metal devices of this general character to turn over the edges to form a finishing bead?

A. A finishing bead is common in mechanical practice, yes, but I do not think your statement is literally true at all. The Simplex heater that we had here yesterday, and that came from England, I believe, does not show any such turned-over edges. The reflectors which the Westinghouse Company have introduced here as duplicates of the Simplex

(Testimony of George J. Henry.)

do not show it. The clamshell reflector, over there on the table, does not show it. I think it is quite common to leave an edge turned over. In sheet metal work, which you have mentioned, the commonest thing we find is a tin can, a yeast powder can; there is no beading on the top of a yeast powder can. Beading is common; I do not mean to dispute that statement, but it is not at all universal. It is usually for a specific purpose. For example, in this case, to prevent contact with the parts of the reflector. Beading, such as you speak of as being [55] common, I think you will find an example of it on the extreme outside edge of exhibit 2, the metal there is turned over. That turning over is very common. But turning over to any such degree as is shown in exhibit 5 is usually done for some definite purpose and for some other function than merely the finish of a metal edge.

The flange 3a of the patent in suit, is structurally a part of the outer casing 3, and has only a contact connection with relation to the reflector 1. That is true of the particular showings of the drawings of the patent in suit.

Q. Do you consider that it matters whether that is integral with the reflector, or is a separate part?

A. I should expect it to be slightly cooler if it were made separate, especially if there were a material air space between. Where there is intimate contact between the two parts, there would still be a material quantity of heat conveyed out on 3a. In the drawing, it is quite evident that there was no

(Testimony of George J. Henry.)

intent to leave any particular air space there, and, therefore, I don't see very much difference between 3a being made integral with 1 or being made separable from 1, although there would be a difference if it were made really separate and a space between them so that no conductivity from one to the other would exist. I think if 1 were a very hot member, that would be the construction adopted; but we are not dealing here with any red-hot structure, such as the center element; we are dealing with a thing that is heated beyond normal, and the idea is to get a sufficiently reduced temperature to make it convenient in handling it.

Q. Have you made any comparative test to determine whether there is any material difference in the degree of heating of the reflecting surfaces in Plaintiff's Exhibit 2 and Plaintiff's Exhibit 5?

A. Only the degree of putting my hands on them. [56] I have made other tests in regard to the emanating beam. But as regards the temperature of different parts of the heater, itself, it is only by the sensation experienced by putting my hand on the different parts.

Referring to certain devices manufactured prior to Plaintiff's Exhibit No. 2, and designated by the manufacturer as Nos. 1, 2, 2b and 3, I think that the turned-over edge of the reflector is what would be properly called a bead. I think it is not a flange in the sense of the patent in suit, in that it is not removed from the heat rays and therefore is not the purpose and does not function to protect the

(Testimony of George J. Henry.)

hand or exterior objects from the hot portions of the heater. Such a flange in any one of these structures would have to be a materially larger device. These would all get very hot. Its dimensions would have to be quite materially increased in order to protect from the heat. These are not efficient forms of reflectors; the reflectors themselves get very hot. The wire guard or cage in one or more of these, noticeably in the No. 2b and No. 3 is provided with projecting wire ends so as to engage with openings in the edge of the reflector, but not through an annular flange outside of the reflector surface. There is a small structural difference which I think is very material as to the facility with which the thing may be handled. The difficulty of getting the wires on and centered to the location of the ring by which the wires are joined inside the reflector edge makes it, I think, materially short of the advantages gained by the method illustrated in exhibit 5. Of course it is very old to put a wire through a hole in order to hold the wire, There is no particularly new feature in that. But the particular way in which these wires are bent and associate themselves with that rim in exhibit 5 is a material advantage over the several exhibits you last mentioned and have shown as being earlier [57] structures of the Majestic Company.

Regarding a device which was offered in evidence in the companion suit No. 492, as exhibit 8, I would regard the marginal portion of the reflector rather as a bead than a flange in the sense that we have

(Testimony of George J. Henry.)

been here discussing bead and flange. Why that was put there I cannot imagine except possibly for ornamental reasons. The man clearly did not have in mind the cooling of that outer edge. I think it would function only to a very, very minor degree as a cooling edge, as compared with that on exhibits 5 and 2. I recognize as a possible element of utility in this turned over edge of the defendant's heater the strengthening of the device to avoid bending in case it should fall and come in contact with some hard surface, but as to the assertion that it also tends to avoid to some extent the possible cutting of the hands of the people handling it and coming in contact violently with the edge if it were not so turned over, I cannot say that; on the contrary, the raw edge of the metal is more exposed to the hand than it would be if it were cut right at the end of the reflector and were not turned over at all, assuming, of course, the wire cage in position. It is a costly matter to put the flange on there. Whether their idea was to prevent cutting of the hands, or to stiffen the rim, I have no idea, but it costs money to put it on, if there is a definite reason for putting it there. That adds very materially to the cost of the reflector.

Thereupon plaintiff rested its *prima facie* case.
[58]

DEFENDANT'S CASE.

Defendant offered in evidence heaters Nos. 1, 2, 2b and 3, manufactured by plaintiff. which had been offered in evidence in the companion case, No.

492, and there marked as exhibits "A," "B," "C" and "D," respectively, and the same were similarly marked in the present case, that is to say:

No. 1 was marked "Defendant's Exhibit 'A,' "

No. 2 was marked "Defendant's Exhibit 'B,' "

No. 2b was marked "Defendant's Exhibit 'C,' "

and

No. 3 was marked "Defendant's Exhibit 'D.' "

Defendant also offered in evidence a photograph of the Majestic Company's exhibit at the Panama Pacific Exposition, and the same was marked "Defendant's Exhibit 'E.' "

Defendant then offered in evidence the following exhibits, marked as follows, to wit:

Copy of U. S. patent No. 881,017, issued to W. E. H. Morse on March 3, 1908, and the same was marked "Defendant's Exhibit 'F.' "

Copy of U. S. patent No. 1,194,168, issued to Albert J. Geiger, assignor to the Westinghouse Electric & Mfg. Co., on Aug. 8, 1916, and the same was marked "Defendant's Exhibit 'G.' "

Copy of English patent No. 119,971, application filed Sep. 4, 1913, and accepted September 4, 1914, by the Government of Great Britain to Simplex Conduits Limited.

Also a copy of U. S. patent No. 1,120,003, issued to A. A. Warner, assignor to Landers, Frary & Clark, on December 8, 1914, and the same was marked "Defendant's Exhibit 'H.' "

Also copy of U. S. letters patent No. 1,109,551, issued to Milton H. Shoenberg, assignor to Majestic Electric Development Company, on September 1,

1914, and the same was marked "Defendant's Exhibit 'I.' " [59]

Also a model as illustrative of the disclosure of the British patent, 19,971, application filed Sept. 4, 1913, and accepted September 4, 1914, to Simplex Conduits, Limited, and the same was marked "Defendant's Exhibit 'J.' "

Also a device designated as a painted reflector for the device of exhibit J and the same was marked "Defendant's Exhibit 'K.' "

Also a model asserted to be a reproduction of what is shown in the Warner patent, No. 1,120,003, and which was not made for sale or copied from anything which was made for sale, but simply made from what is shown in the patent as nearly as he could make it, and the same was marked "Defendant's Exhibit 'L.' "

Also a device produced and identified by witness Beam as made under and corresponding to the Geiger patent, No. 1,194,168, referred to as the clamshell heater, and the same was marked "Defendant's Exhibit 'M.' "

Also copy of U. S. patent, No. 668,459, issued to E. T. Porter on October 15, 1901, and the same was marked "Defendant's Exhibit 'N.' "

Defendant produced and offered in evidence page 79 of a printed publication entitled "The Electrical Times," dated January 25, 1912, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in

evidence and was marked "Defendant's Exhibit 1," the said being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 37 of a printed publication, entitled "The Electrical Times," dated January 11, 1912, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, [60] which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 2," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 239 of a printed publication, entitled "The Electrical Times," dated March 7, 1912, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 3," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 362 of a printed publication, entitled "The Electrical Times," dated March 6, 1913, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit

4," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 364 of a printed publication, entitled "The Electrical Times," dated March 6, 1913, published at London, England, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 5," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 214 of a printed publication, entitled "Supplement to the Electrician," dated October 3, 1913, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and [61] was marked "Defendant's Exhibit 6," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 353 of a printed publication, entitled "The Electrical Times," dated October 9, 1913, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted thereof, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 7," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 591 of a printed publication, entitled "The Electrical Times," dated December 4, 1913, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which photographic copy was then offered in evidence and was marked "Defendant's Exhibit 8," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 12 of a printed publication, entitled "Supplement to the Electrician," published at London, England, dated October 16, 1914, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 9," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 162 of a printed publication entitled "The Electrical Times," dated August 31, 1916, published at London, England, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was [62] marked "Defendant's Exhibit 10," the same being hereby referred to and by such reference made a part hereof.

Plaintiff's counsel admitted that the early Majestic devices 1, 2 and 3, hereinbefore referred to,

were made and sold more than two years prior to the filing of the application for the patent in suit, but the manufacture and sale of the other devices referred to as 1b, 2b, and 3b were not made until the fall of 1915.

Testimony of Victor S. Bean, on Behalf of Defendant.

VICTOR S. BEAM was then called as a witness on behalf of defendant, and his qualifications as an expert witness was conceded by counsel for plaintiff, and was duly sworn and testified as follows:

I have read and examined a copy of the patent in suit. I am generally familiar with the prior art dealing with devices of this character. The art in this special division electric heating and it seems to have started with the Morse patent. I am familiar with the defendant's device alleged to infringe this patent in suit. Referring to the Brown patent, I find practically everything shown and described in the Brown patent in the prior art; specifically, all of the elements seem to be embodied in substantially the same way in Shoenberg's patent No. 1,109,551. We have there a heater substantially of the same type as shown in the patent in suit. The Shoenberg patent shows the radiant type of heater. Some of the figures show it as a pendant device which may be attached to a plug or suspended in some way from the ceiling; some of the figures show the heaters of the strictly portable type. For instance, Fig. 5 shows a portable type heater. Another view

(Testimony of Victor S. Beam.)

is given in Figure 6. Figures 1, 2, 3 and 10 show a [63] pendant device, but in each you have a heating element placed within the curvature of a reflecting bowl with guard wires to protect the public from touching the heating device. Referring particularly to Figure 10, we find the provision of an extra covering or a rear covering for the reflector, and providing for an air space between that covering or shell and the reflector, the purpose of this being, apparently, to protect the reflector from being touched by the public and to convey away the heat. This device, shown in Fig. 10 is a flange for protecting the edge of the reflecting surface, or, rather, protecting it from being touched or protecting the public from being burned by the heat generated in the reflector. We have in this Figure 10 also a protecting cage or guard which is marked 14, and that guard is attached to the outer circumference of the flange which I have just mentioned. That flange is also shown in Figure 2 of this patent; likewise the ends of the guard wire, 14, are shown engaging the outer circumference, in that figure. Of course, Figure 1 shows the complete device, with the guard in position, engaging the outer flange. The heating device of this Shoenberg patent is arranged transversely to the longitudinal axis of the reflector, just as in the patent in suit.

Q. Is it located at the focus of the reflector?

A. Substantially so, yes. The reflector of the Shoenberg patent does not have any very definite focus, but it is located within the curvature of the

(Testimony of Victor S. Beam.)

reflector, and with the heating coil arranged in that way the heat is reflected by the reflector in a substantially parallel beam so as to heat up the object which it is desired.

Q. What are the real differences, then, as you see them, between the patent in suit and the Shoenberg patent which you have just referred to, so far as the heater element, the reflector and the protecting guard are concerned?

A. I do not see any [64] substantial difference between the two; certainly, they are the same in principle. While the shape of the reflector differs somewhat, the net result seems to be the same. The operation is certainly the same.

Q. Does the location substantially of the focus of the reflector import any limitation or definition as to the shape of the reflector?

A. Well, it is practically impossible to locate a coil of that sort at the focus of any reflector of which I have knowledge, because it would be too large. You can more nearly approximate an effective focus, however, by placing the coil in line with the transverse axis of your reflector. But if you put it crosswise, as shown in the Shoenberg patent and in the patent in suit, you have certain parts of the heating device quite out of effective focus, and you get more or less divergence of at least some of the rays sent out by the heater. If your curvature is parabolic, you get the heating coil very close at points to the surface of the reflector, and that causes heat both from that close proximity and also the fact that you

(Testimony of Victor S. Beam.)

do not get good reflection from the effective surface, and that causes it to heat the reflector and provision must be made for taking care of that heat.

These exhibits "A," "B" and "C" all seem to have been built more or less in accordance with the Shoenberg patent just mentioned, and, indeed, they all have the date of that patent marked upon them. Exhibit No. "A" is of the pendant type; exhibit "B" is of the portable or pedestal type, such as shown in the patent in suit. Exhibit "C" is also of the portable type, and exhibit "D" is also of a portable type, with a pedestal but the reflector is mounted considerably different with respect to the pedestal than exhibits "B" and "C." They all have a concavo-convex reflector, they all have a transverse heating element mounted within the curvature of that reflector, [65] they all have guard wires of the patent. They differ, however, from the patent in suit in that they do not have the specific flange 3a of the patent in suit; instead of that flange they have a beading on the outer edge of the reflector, this beading apparently being for the purpose of stiffening of the edge of the reflector and to a certain degree at least providing for the attachment of the guard wires or cage. I should point out that these four devices are also different from the patent in suit in that there is no double casing for the reflector, or, more definitely, that there is no extra casing back of the reflector.

Q. Do you find anything in the patent in suit cor-

(Testimony of Victor S. Beam.)

responding to the turned-over edge or beading of these devices?

A. Yes. If you will examine Figures 2 and 5 of the patent in suit, you will find that same beading. It is at the outer periphery of the reflector designated by the numeral 1. You will find that turned back or beaded, and contacts with the inner surface of the flange 3a; that serves the purpose of strengthening the reflector, and provides for engagement between the reflector and the outer casing or flange, which flange is designated as 3a. There is also a small beading apparent in Figure 5, on the outer edge of the flange 3a. You will notice down at the very bottom of Figure 5 there is a projection to the left from the extreme outer forward surface of the flange 3a, which seems to be a very definite form of beading. I take it that is there for the purpose of protecting the outer edge, or possibly strengthening it.

Q. Do you find anything in Plaintiff's Exhibit No. 2 corresponding to the part you have mentioned?

A. Yes. It is quite apparent that there is a beading on the outer edge of the flange, which, in the patent, is designated as 3a, and which in this device is a flat ring outside of the reflector; there is also [66] a turned-over portion on the outer edge of the reflector in this device which in the patent is designated as 3. This turned-over portion, which may be designated as a bead, seems to strengthen the reflector; it provides for a fit between the re-

(Testimony of Victor S. Beam.)

flector and the flange. The reflector is screwed onto this bead—this bead is screwed onto the flange 3a, and where the screws are the reflector seems to be in quite intimate contact with the flange; but one place particularly in between the screws there is a small air space shown in very intimate contact.

Q. Mr. Beam, I would like to have you compare the plaintiff's device, which is admittedly an exemplification of what is shown and described in the patent in suit, that is, exhibit 2, with the defendant's device, which is in evidence as exhibit No. 5, and point out such resemblances and such differences as may appear to you, having special reference to the heater element, the reflector, and its annular member extending outwardly—that is, in the plaintiff's device extending outwardly from the margin of the reflector; and the protecting wire cage, its means of attachment, and the means of supporting and insulating the heater element. You may take up these features in such order as they may best appeal to you.

A. Starting with the heating element, which, of course, is the most important element, since it is one that generates the heat—the device would not be any good without that in there, I find quite a difference in the two devices in the mounting of the heating element; in the Westinghouse device, exhibit 5, this coil is mounted in the longitudinal axis of the reflector, and is inserted from the rear, allowing very ready removal, whereas in Plaintiff's Exhibit No. 2 the heating element is arranged transversely of the axis of the reflector. This is quite an important differ-

(Testimony of Victor S. Beam.)

ence functionally, because the [67] straight-line arrangement of exhibit 5 is a much better arrangement, since it is practically bound to give better heat distribution, and allows more freedom in design of the reflector. The transverse arrangement of the coil is bound to give irregular heat distribution on the reflecting surface, and, therefore, will generate considerable more heat at one point than another, and, in fact, heat up the reflector a great deal more than with the straight-line arrangement as found in defendant's device, exhibit 5. To overcome that heating up of the reflector the plaintiff has provided an extra casing at the rear of the reflector, so as to introduce a dead air space in between the two casings, and to prevent the public from coming in contact with the heated reflector; and, in addition, has provided the outwardly extending flat annular flange for the same purpose, that of protecting any person who should desire to touch the device from being uncomfortably heated. This flange acts in a sense as a radiator to conduct the heat away from the reflector. Defendant's device, exhibit 5, does not have the flange, but instead, has a beading on the outer surface of the flange, which beading corresponds to either the beading on the outer edge of the flange 3a, or to the beading on the outer edge of the casing. In plaintiff's device, exhibit 2, the cage or guard wire is attached to the outer periphery of the flange 3a, and has a distinct provision for hinging these guard wires or cage. In defendant's device, exhibit 5, there is no such provision for the hinging of the cage or

(Testimony of Victor S. Beam.)

guard wires, as the whole cage is readily removable. The most natural thing is, if you want to get at the heating device, or the inner surface of the reflector, to polish it, is simply to remove the whole cage, pull it right off. This cage, or these guard wires are not in defendant's device, exhibit 5, attached to any outer flange, they are simply attached to the outer edge of the reflector. [68]

Coming now to the specific method of attaching the heating coil in the two cases, we find that due to the transverse arrangement of the heating coil in plaintiff's device, exhibit 2, two connecting means are required and used, because this transverse arrangement, together with the necessary length of the coil, brings your lead from the coil to points in the reflector separated about $2\frac{1}{2}$ inches apart. That necessarily requires that they be brought through the reflector to the rear as two separate leads. Then after the leads are brought through the reflector, they are drawn together in between the two casings and brought out through the rear of the outer casing end in a cord, which is the means of attaching to a lamp or to a socket where they are used. In the defendant's device, which is exhibit 5, on account of the straight-line arrangement of the coil, the leads may be brought out through the casing in a much simpler manner, especially since there is no outer casing to the reflector. In this exhibit 5, the heating element is simply projected through the rear of the casing to the segment in position by set screws on the rearwardly projecting flange of the reflector.

(Testimony of Victor S. Beam.)

Q. As a matter of fact, does the reflector of the defendant's heater become hot in service?

A. It does—I beg your pardon, I was referring to exhibit 2. Now, referring to exhibit 5, which is defendant's device, and answering your question, the reflector of that design does not become heated to any noticeable degree in service, certainly not to any detrimental degree. No provision for protecting the public is necessary.

The COURT.—Just a moment; I would like to ask one question.

Q. Let me ask you this question: Is there a substantial difference in the temperature of the two devices in actual practice and operation?

A. I have noticed a difference in temperature, yes. In some of the plaintiff's devices I have seen [69] that the portion of the reflector nearest the ends of the coil have been tarnished apparently as a result of extreme heating.

Q. But I am thinking more of the outer edge, what is referred to as the flange in one, and what is referred to as the bead in the other.

A. That is the direct result of the distribution in there; that is, if you don't get your reflector overheated, of course you won't have—

Q. I am asking for the fact, rather than for an explanation. You tell me that the part of the reflector in exhibit 5, just inside of the flange or bead does not get very hot—hot enough to do any injury.

A. It does not; in fact, no part of the reflector does.

(Testimony of Victor S. Beam.)

Q. You mean to say, then, that that flange or bead is not there for protecting against injury?

A. I would say so, yes. I might add that the heat that comes to the outer edge of the reflector would come there by conduction from the other parts of the reflector. This is made of metal, which is a good conductor of heat, and if overheated in any spot, it would be conducted out to all the surface. You have one equal distribution of your heat on that surface, and that reflector has to act as a conductor of heat from one spot to the other.

Cross-examination of Witness BEAM.

I certainly consider the transverse arrangement of the elements as shown in the Brown patent is inferior to the longitudinal arrangement shown in defendant's structure and that he would get better results if he had arranged it longitudinally. As to whether or not the Brown patent contains any statement requiring or suggesting that the element be arranged transversely, the specification says it should be arranged preferably at the focus, and since he shows a parabola, it certainly is a strong indication that he wanted [70] to put it crosswise as he has shown. There is no specific statement that the heating element must be arranged transversely to the axis, but it is shown that way, and it would be difficult to carry out the language of the claim 4 if the other arrangement were used. It certainly would not be a natural way of carrying out the language of claim 4. The whole make-up of the device indicates that is the way his coils should be ar-

(Testimony of Victor S. Beam.)

ranged. The reason which makes me think that the transverse arrangement of the element will result in a poorer heating than the longitudinal arrangement, is that in the first place the heating element, especially if you were using a parabola, will at its ends come closer to the reflector than it should, and you interfere more with the reflection of the rays, due to the size of the heating unit, the necessary size of the heat unit, by the crosswise arrangement, than you would with the longitudinal arrangement. That is not purely theory. I think I can see that very definitely. I have noted devices like exhibit 2 which appear to have been made by the Majestic Company, in which the surface of the reflector near the ends of the coil had been burned. I have operated one of the Majestic devices in my own home and noted it. It is not a good arrangement for the coil in there on account of the generation of heat. I noted that last winter. It was cold last year, and I used the Majestic heater to keep warm. I bought it in the market from one of the supply houses in New York, and used it and still have it. I did not subject it to any scientific test to find the amount of heat it would produce. I simply noted its operation visually and by holding my hands in front of it and noting the heat. I noted it directly from my sense of feeling. I did not measure it with any instrument. I have also operated one of the Westinghouse heaters in my own home last winter. I compared it with the Majestic, but I did not subject [71] it to any scientific test. I did not

(Testimony of Victor S. Beam.)

use any thermometer to measure the degree of heat between the two. It was not necessary. Neither did I use a radiometer in connection with the two devices. My theories are and testimony is based on the visual observation to a great extent. If you look in the face of these devices, you can tell a great deal about distribution. I used the sense of touch; more particularly the sense of feeling. Of course, one of these heaters will produce just as much heat as the other if they have the same resistance and use the same current, so that as to that part they are all the same. I was speaking as to the direction of the heat and the distribution of it. I mean that the Westinghouse would distribute the heat more effectually than the other one, if you were looking for uniformity in the projected beam. They are cylindrical in form, or nearly so, and somewhat wider in dimensions. The Westinghouse heater projects the beams in parallel lines; I would not say that the Brown heater projects the beams in parallel lines; I would say that certainly it projects some parallel lines. As Mr. Henry has testified, on the horizontal plane it is quite divergent. You must bear in mind that the cross arrangement of the coil presents quite an obstructing surface to the reflector, so that the rays that are reflected backward have a habit of coming out and hitting the coil, and of course that tends to heat the back part of the coil more than the front. That, in itself, is a source of disturbance. The object of both heaters is to project the heat from the

(Testimony of Victor S. Beam.)

reflector out into the room in the shape of a beam, as nearly solid as possible, without having those heat waves scatter around in other portions of the room, and for that reason they are generally designated by the trade as beam heaters. My idea is that both of these heaters attempt to do the same thing, in the shape of using a beam [72] of heat from a reflector, and that the Westinghouse heater, by virtue of its longitudinal arrangement of the element, does that better and more effectually than the Brown, which has a transverse arrangement of the element. I have held a handkerchief in front of the Westinghouse device in immediate contact with the guard wires when the heater was in service and it did not burn the handkerchief at all. I have never tried it on the plaintiff's device, because I was afraid of burning my handkerchief. That problem of preventing that heating coil from obstructing the action of the reflector seems to have been the problem. I notice that Mr. Brown has had a recent patent issued to him for a way of getting around that.

Q. Well, if that is true, and you were afraid to put your hand over the front of the Brown heater for fear that it might be burned, or that it was too hot, then you must have anticipated or argued that more heat was coming out of that heater than out of the Westinghouse heater.

A. No, it was not my hand, it was my handkerchief. The point is not the amount of heat *in toto*, but the distribution of it; you get local hot spots.

(Testimony of Victor S. Beam.)

Q. If I understood you correctly, you said that the Westinghouse reflector did not heat up when it was in operation. Is that correct?

A. Oh, no, I said not detrimentally so. I mean it did not heat up to such an extent as to become detrimental. It got warm, warmer than when it was not in use. After it has been running for some time. I have put my naked hand on the reflector without evil results. I have also put my finger on the flange, or what you call the bead around the rim and it was not detrimentally hot. I would not call it hot, it was warm. I don't remember putting my hand on the inside of the reflector during the burning of the device, but there would not be much difference. The Brown reflector heats up and gets hot, hotter [73] than the Westinghouse heater. For instance, as evidenced by the burning of the surface, and the general appearance. I have tested the two to see which gets hotter, by feeling the device and noting the distribution. The back of the Brown heater is cooler than the back of the Westinghouse, having an air space between. I should say it is the impingement of the radiant wave energy from the element against the surface of the reflector that heats the reflector. The rays strike there, and, due to the imperfections of the device, some of the energy is lost and that goes into heat. An ideal reflector would be one which reflects the entire energy without absorbing any of it. In all of the reflectors it is impossible to produce one of that ideal character, and, therefore, the reflectors in use do absorb

(Testimony of Victor S. Beam.)

some of the radiant energy and become heated up. That is true of both the Brown and the Westinghouse. Neither of them present perfect surfaces. Both of them absorb some of the radiant energy and thereby become heated. To call this annular portion around the edge of the Westinghouse reflector a flange, I do not think would be the natural way of describing it; that is turned over or beaded to strengthen the edge. If I wanted to tell a man what a flange is, I would say it was a distinct projecting portion. Specifically on a curved surface, I think it ought to be flat, but there may be exceptions to that. A great deal depends on the size, on the purpose, how natural it is to make it. If I had a flat piece of metal and were to bend the edge of it at a right angle to the plane of the metal, that bent portion would not necessarily be termed a flange. I would want to see it first before I spoke of it as a flange or bead. If you were to take a piece of tin plate, and bend the edge at a right angle, say one-quarter of an inch of the plate, bend that at right angles to the surface of the plate, you [74] might possibly call it a flange, but I think it would be more natural to call it a bead, or an edge, or a frame. Where it is flat, just as flat as this member a3 in the Brown device, it would be pretty difficult to say what you would call it. It depends on the purpose and appearance. The outer edge of exhibit "D," in plaintiff's prior device No. 3, there is a bead on the outer edge of the reflector within the terms of the definition. The prior

(Testimony of Victor S. Beam.)

devices No. 2 and 2b and No. 1 also have such a bead. They all have well defined beads, around their perimeter. The bead is a very small one. That bead is in the shape, practically, of a round metallic cord with the edge turned under so as to practically make it a round or solid shape, if you take it to mean cylindrical in cross-section. This thing in the Westinghouse heater which I call the bead does not have the outer edge turned over so that in cross-section it would be cylindrical; it is not turned around 360 degrees. That is not the same kind of a bead that I find in these Majestic devices with respect to the contour of the same. It would seem to me more natural to use the term bead in respect to the Westinghouse device. However, I do not think that matters very much what you call it, because Plaintiff's Exhibit 2 has much the same thing on the outer edge of its reflector, which in the patent is marked with the numeral 1. Whether or not it would be correct from a mechanical sense to term this projection on the edge of the Westinghouse heater technically a bead, I will say that if you gave that device to a mechanic and told him to bead the edge, he would quite likely come back with this form. I think that would go for a device of that size. If the edge of this device were turned under and rolled as shown in the Majestic device, you might call it a perfect bead, because it is cylindrical in cross-section. The reason the Westinghouse did not adopt that kind of a cross-section [75] is that it would cost more to turn that clear

(Testimony of Victor S. Beam.)

over. I do not know that it would not cost as much to make a bead, technically so-called in the manufacture of sheet metal as it would to manufacture that device as it is shown in the Westinghouse heater. I am not acquainted with the mechanical process of making beads on the edge of sheet metal. Sometimes it is turned over by spinning.

The COURT.—That you may understand each other, he may be talking about one form of bead, and you another. You have in mind a bead of the size, possibly, of this shown on the Majestic device, and he had in mind, possibly, a bead of the size indicated by this turned-over edge on the Westinghouse device.

Mr. MILLER.—Is that what you had in view in giving your answers?

A. I had in mind the turning of this particular curved portion into a cylinder.

The COURT.—Referring to exhibit 5?

A. Yes.

Mr. MILLER.—Q. You mean it was cheaper to make it just like this instead of to turn the edge under? A. Yes, as I understand.

Q. How would you define a concavo-convex reflector?

A. I had a definition on a memorandum which might possibly be better than trusting to my memory. I find I do not have it there. It is an egg-shell shape; it has a hollow curvature on one side, and a projecting curvature on the other. I cannot think of the technical terms at this time, but half

(Testimony of Victor S. Beam.)

of an egg-shell is concavo-convex.

Q. Is the inside of the curve regular and uniform throughout its surface?

A. It ought to be regular in curvature on both sides, but the degree of curvature on the two sides may not be the same. One form of the concavo-convex surface is termed divergent, and the other form is called the convergent.

Q. Look at Plaintiff's Exhibit 6 and tell me if the interior curvature of that device differs in character from that of the [76] Brown patent and the Westinghouse device?

A. Yes, it differs somewhat from both of them. This is bowl-shaped, or somewhat irregular curvature, whereas the plaintiff's device, exhibit 2, is of parabolic curvature, and defendant's device, exhibit 5, is still different in that it has a circular curvature.

Q. Is the parabolic curvature regular in contour throughout?

A. It appears to follow the outline of one particular parabola, if that is what you mean. Of course, you have got to bear in mind that the curvature of a parabola changes from point to point, whereas in a circle the curvature is always the same.

Q. The curvature in a parabola is always the same for any specific parabola, isn't it?

A. No. The curve changes as it goes outward. You cannot lay a draftsman's curve on two parts of the same parabola on the same side of the longitudinal axis and match them.

(Testimony of Victor S. Beam.)

Q. Is the curvature of the surface of the parabola regular above its axis?

A. Yes. All three of these are that; they are all symmetrical around a central axis.

The COURT.—Is that which you have in your hand?

A. Yes, taking this as the longitudinal axis, the curvature is the same on that side as on that side.

Mr. MILLER.—Q. But there are different curvatures in this exhibit 6? A. Yes.

Q. In fact, one part of it is perfectly flat, is it not? A. The back is flat.

Q. And the sides have different curves in them?

A. Yes, they have different curves.

Q. Some of them are concave and some are convex, are they not?

A. That might possibly be said of those curves. It is a little difficult to tell. The whole thing is concavo-convex to my mind.

Q. Would that device make an efficient reflector for a beam heater?

A. Yes, it would, depending on how you arranged the [77] coil with respect to it.

Q. Isn't it a fact that the heat rays would cross each other and be scattered out into the room in all directions, instead of in a beam?

A. No; that would throw a beam, possibly not a strictly cylindrical beam; it would be somewhat divergent.

Q. The rays would scatter out in the room, would they not?

(Testimony of Victor S. Beam.)

A. Not all over the room, no. I could reflect that onto you and you could feel it, and you would not feel it back of it.

Q. In Defendant's Exhibit "D," there is a plane surface at the back of the heater, and a curved surface at the side also. That is true, is it not?

A. Yes.

Q. Do you think that would make an efficient beam heater?

A. Yes. That is a little better adapted for a transverse heating element than plaintiff's device, exhibit 2, except that it is not quite big enough.

Q. You mean by that, that it would make a more efficient device than Brown's heater?

A. If the reflector were somewhat larger, I should think so, because it does not seem to have that problem with respect to the horizontal arrangement of the coil there. You see, you have got a flat surface at the back, there, and that is a uniform distance from the heating coil, and you would not expect it would burn on the surface as quickly as the other.

Q. Can you explain why it was that heater did not take sufficiently with the public to be permanent, but on the contrary, was abandoned when Brown No. 7 heater was introduced?

A. Well, it was not copper colored; that is one thing; and it was small, not near as big as that other. Plaintiff's Exhibit 2 is coppered up.

Q. In other words, you think that the Brown heater that is in evidence here, No. 2, by virtue of

(Testimony of Victor S. Beam.)

being made of copper, and in the form in which it is there shown, was more attractive [78] in appearance than the old heater. Is that what you mean to express?

A. Yes, it is more attractive on that account, coppered up.

Redirect Examination of Witness BEAM.

Referring to the patent of Warner, No. 1,120,003, Defendant's Exhibit "H," I find there is a turned-over edge on the reflector which is indicated in the patent by the letter f, which corresponds to the turned-over edge of defendant's device. This is particularly shown in Fig. 2 of the Warner patent at the extreme left-hand edge of the reflector.

Recross-examination of the Witness BEAM.

That turned-over edge of the Warner patent shows a complete turning-over of the edge so as to produce a bead which in cross-section is not quite cylindrical, but is turned back so as to meet the outside portion of the reflector f, and at that point joins the outside casing c. There is no statement in the specification of that patent regarding the turned-over edge.

On this point defendant rested its defense.

PLAINTIFF'S REBUTTAL.

Testimony of George J. Henry, for Plaintiff (In Rebuttal).

In rebuttal, plaintiff called as a witness GEORGE J. HENRY, who gave the following testimony:

(Testimony of George J. Henry.)

Referring to Defendant's Exhibits "A," "B," "C" and "D," and comparing them with the mechanical structure shown in the patent in suit as to similarities or differences, speaking generally as to all of these exhibits to which you have referred me, they are noticeably distinguished from the Brown mechanical patent in suit, in that the reflector is not a concavo-convex reflector in any sense of the word, as [79] contemplated in the Brown patent. They are all devoid of an annular member extending outwardly from the margin of the reflector. They are all devoid of a focal point or focal area or volume about which the heat element is disposed. For the first and second reasons which I have given, they fail to deliver a radiant beam or a beam of radiant energy which would be sensed as heat by a person in the range of such a beam. On account of the shape of the reflectors in all five of these exhibits, the reflected rays, because, of course, there will be reflected rays of radiant energy, will criss-cross in various directions, producing an hiatus of impacting beams or rays—not beams—of different intensity at various points, and none of them sufficiently intense to make the heater useful as a beam heater to a body located at any material distance from the heater, itself. With the exception of exhibit 6, they are provided with heat elements, and exhibit 6 is the dish-shaped back only of the heater which was intended to be furnished also with a heat element; the reflector or back, for, really, it is more probably

(Testimony of George J. Henry.)

a backing or housing than a reflector in all of these five heaters, as rather a protective shield than a protector. It, of course, does function to some extent as a reflector in exactly the same way that a stone wall functions as a reflector of radiant energy. If one is passing by a stone wall on which bright sunshine is impinging, you at once detected some reflected warmth therefrom, or at least you detect warmth generated by radiant energy reflected therefrom. In this case there is a very large area reflecting rays of radiant energy in all directions, and if you are close to such a surface you will, of course, receive enough of these upon the sensory nerves of the body to experience the sensation of heat; in the same way, if you hold your hand close to one [80] of these heaters in the exhibits now under discussion, you will experience slightly more heat in the front of the heater than you will in the back. Some of this is due to reflection of radiant energy from the interior of the casing, or reflector, but the form of the reflector in each of these exhibits is such that the rays from different portions of the heater unit itself, as reflected from different portions of the reflectors themselves, will be very divergent in the aggregate, and in the case of any individual point or ray, it will be in criss-cross, and will, in turn, criss-cross other rays in a way to produce a very highly inefficient radiant emanation. This radiant emanation cannot be called a beam in the sense of that which is producible and is produced by the reflector of the Brown patent,

(Testimony of George J. Henry.)

with the heating element arranged a focus or about an axis on which several foci will lie. In either of the last two instances employing a concavo-convex reflector, that is, one which is curved at every point in such a way that the curve is expressible by a mathematical formula, as is that of a circle, or any of the *conic* sections and certain other curves; in the case of such a concavo-convex reflector with a heat source or unit mounted about its foci, the emanating rays will be conserved in the shape or form of a beam, whose cross-section will be more or less circular, according to the disposition of the heat unit within the reflector, and the shape of the reflector surface. Such a reflector beam is generated in and emanates from the Brown heater as constructed in accordance with the patent in suit, and likewise from the heater of the defendant's construction. In the reflector of Plaintiff's Exhibit 6, the greater portion of the reflector, or, at least, that which receives the greater portion of the rays emanating from the heat unit, and which, to be efficient, should be reflected as a beam, is in reality a flat surface. [81] The same applies to the other exhibits, with the exception of Defendant's Exhibit "C," in which there is likewise a flat surface, but not of quite so great proportions. This flat surface will reflect radiant rays in practically every direction. These exhibits are of nickel or of nickered surface, and as such are not nearly as efficient in the reflection of the radiant heat rays. They are all devoid of a cool edge removed from

(Testimony of George J. Henry.)

the range of the impact of the radiant rays. They all, being inefficient reflectors, will become quite hot, and the protection of such a rim in their case would be even more necessary than in larger reflectors and of more efficient shape. In the case of exhibit "D," there are two heat elements manifestly out of any central axis, and the construction of such a device as this clearly indicates a total avoidance or lack of appreciation of any reflector rays in which there could possibly be conserving in the form of a beam. I have made tests with heaters of the kind illustrated by these exhibits which are before me with a view of ascertaining their efficiency as compared with the efficiency of the Brown heater. With some of them I found they were grossly inefficient as regards the production of a radiant beam. Radiant beam would be such a beam as would appear of light, for example, in coming through a hole in a roof into a darkened room; sun rays would create a radiant beam; the radiant beam is made up of, presumably, waves in the ether traveling in perfectly straight lines and at an enormous rate of speed, the same as light; light being one of the manifestations of radiant energy, and of a certain specific wave length. Other wave lengths of radiant energy which do not give us the sensation of light are observable in other devices, or may be made manifest to us by other devices, as for example, that which produces heat. We cannot see the radiant energy which produces heat, [82] but our sensory

(Testimony of George J. Henry.)

nerves detect the impact of the waves. For all purposes of ordinary comparison, it is well to think of them just as though they were like rays; that is, they travel in a straight line, they travel at the same rate of speed; they are subject to substantially the laws of optics in that they may be reflected from certain surfaces more than other surfaces. Polished copper is a highly efficient surface for the reflection of radiant heat waves, meaning by that radiant heat energy having a certain range of wave lengths.

Q. Does the Brown heater in suit produce a beam? A. It does, decidedly so.

Q. Is there any utility or advantage in producing that kind of a beam?

A. A very great utility, in that a relatively small consumption of electrical energy may be transformed into heat waves and concentrated at a particular point without making necessary the warming of the entire room, for example. With the Brown heater we have a heater that will keep you comfortably warm in a perfectly cold room; you can keep all the windows open and still retain a very high degree of efficiency of warmth, attained from a very small consumption of electrical energy. It is quite analogous in receiving qualities, and as different from most forms of heaters to an experience that one would have in walking across a glacier on a very warm summer day, or out on the snow on a very warm day; you feel a decided sensation of warmth, so hot at times you may have to take your coat off, and still the thermometer is

(Testimony of George J. Henry.)

at a very low temperature. The reason is that you are receiving a very intense beam of radiant energy from the snow. The same will apply to a Brown heater. A thermometer in a room will show almost no increase of temperature, and yet you can get into a hot perspiration by being within the beam of [83] one of the heaters in a very short space of time; the room itself is not warm, the air is not warm, the other objects are not warm; the warmth is merely the sensation you get from the radiant beam on your body from the reflector of the Brown heater, and, as such, it is the only type of heater that is in this case which will produce the beam. The Westinghouse I consider the same identical type. These other heaters do not produce a beam of heat.

Q. Is there any exhibit in evidence here of the prior art which does produce that kind of a beam?

A. No, there is not, precisely.

Q. Do you consider the production of a beam such as that as being new in Brown so far as the evidence here shows? A. It certainly was.

Q. That is really the essence of his discovery, then, is it? A. I consider it so.

The Shoenberg patent, which is Defendant's Exhibit "I," does not show anything with reference to this issue here, any further than what is shown by these five exhibits which I have referred to, and my answer in regard to the five exhibits applies also to the Shoenberg patent, No. 1,109,551.

The Morse device (Defendant's Exhibit "F")

(Testimony of George J. Henry.)

is one for the purpose of concentrating heat upon a portion of the body for therapeutical use, primarily, and is a heat container rather than a heat reflector, the idea of the patent being clearly expressed as intending to conserve the heat within the bowl-shaped member No. 1.

The COURT.—Does that throw a beam, or does it not?

A. I would consider that, if utilized on standards, it would go a little closer to throwing a beam than would the nickel-plated devices and the Shoenberg dish form to which I have testified, but the source of heat is very clearly and materially [84] removed from the focus, and the edges of the reflector are extended over in such a way that most of the beam thrown from the back of the reflector would be interfered with by the side before it ever left the reflector, with the result that you would have a very inefficient reflection of heat rays, and a very material divergence as soon as you got away from the front edge. The purpose of the inventor was to concentrate his heat along the line corresponding with the flange, numeral 2, and it might be efficient for that, but would not be efficient as a radiant reflector for producing a beam. Defendant's Exhibit "G," Geiger patent, in connection with the model which has been put in evidence as an exemplification of it and marked Defendant's Exhibit "M," is very decidedly different from anything shown in the Brown patent, in that the reflection from that would be spread over a very large surface

(Testimony of George J. Henry.)

and of a highly irregular nature. The rays of radiant energy would criss-cross and diverge to a degree exactly the contrary of that desired in a beam heater. It is just the antithesis of a beam heater. Referring to the English patent which has been referred to as the Simplex patent, No. 19,971, a reflector of a form corresponding with the casing or outer sheet of the reflector of this patent would not throw a beam in any sense of the word. Most of the heat rays will be reflected back and forth within the heater device, itself, resulting in heating up the reflector, rather than in securing reflection. The few rays that will be thrown outwardly will be criss-crossed in all directions, doing just the contrary of a beam. The shape of the reflector, the flutes that are in it, its long heat element, and its conical lines, would produce that criss-cross. Referring to the Warner patent, Defendant's Exhibit "H," the same applies to this heater; it will not produce a beam in the sense that I have been employing this term, and [85] as contemplated in the Brown heater. The object of this and other heaters in the art seems to have been the production of warm air, with the idea that the transference of warm air by convection will do the desired heating. The Brown heater is not intended to produce warm air, it being distinctly a radiant heater as distinguished from the type of heater indicated in the Warner patent. For example, Warner does very clearly, commencing at line 52, page 1 of his specifications, "Substantially all

(Testimony of George J. Henry.)

the surface of the resistance wire is open to contact with the air, producing a structure in which the heating effect has the greatest possible efficiency, with the result that the device, as a whole, though in a small and readily portable form, is capable of readily heating large volumes of air, making it particularly useful for the heating of rooms."

The manner in which the annulus carrying the resistance is formed and its location, materially away from any focal range, clearly indicates the intent of the patentee was not the employment of a reflecting surface to produce a beam, nor did he produce a reflecting surface, a heat unit which would produce a beam, but, rather, a container or circulating structure about which air would circulate and be heated.

Referring to the Porter patent, Defendant's Exhibit "N," this is an electric fan in which, by the employment of resistance embedded in or upon the blades of the fan the inventor contemplated the warming of air which would pass over the fan blades when the fan was in operation; the air passing over the blade would become warm and would be thrown out, and by convection would warm objects on which the so heated air would subsequently impinge. It is not a beam heater in the same sense at all as Brown, nor is it a beam heater in any sense. [86]

Q. Referring to this Westinghouse heater, Plaintiff's Exhibit 5, please state whether or not the curved-over outer edge of the reflector that is there

(Testimony of George J. Henry.)

shown can be properly termed in mechanics as a bead?

A. I do not so consider it, and in mechanics I would consider the proper term to apply would be a flange. A bead is ordinarily where the metal is turned over on itself, and in intimate contact, without air space between, and, moreover, forms a complete circle or substantially a complete circle. This is a flange in every sense of the word in mechanics, and in the sense of the Brown patent.

Cross-examination.

Mr. CARR.—Q. What is the turned-over edge of the part marked “1” in the drawing of the patent in suit?

A. That is a flange. It is not the entire flange contemplated in the patent, but it is in mechanics a flanged-edge on the reflector 1.

The COURT.—Q. Suppose it were not turned over, what, then, would it be?

A. Do you mean if it were at right angles to the axis?

Q. No. If this were not turned over at all, it would be a flange, would it not?

A. Yes, it would, in mechanics.

Q. Being turned over, what is the turned-over part called?

A. If I were describing that to a workman in metal, I would call it a turned-over flange. In order to describe it fully to him he would have to be given a sketch; whereas, if he were making the reflectors and I instructed him to put a bead on

(Testimony of George J. Henry.)

the outer edge, I am sure he would know at once what I meant and would produce a bead on there. Flanges are of various forms, depending on the purpose for which they are intended.

Mr. CARR.—Q. In view of your criticism of what is shown in the Shoenberg patent, No. 1,109,551, please note this [87] language appearing on lines 48 to 53, page 1, specifications.

“The reflector consists preferably of a highly-polished metal shell 1, which is somewhat hemispherical or dome-shaped, and serves to reflect the heat waves received from the heater and direct them outwardly from its inner concave surface.” To your mind, what is the significance of that?

A. That portion of the reflector is of concave form, and does reflect rays outwardly. The edges of the reflectors in the several nickel-plated exhibits, “A” to “D,” and 6, to which I previously testified, all answer that description. That is, a portion of the reflector is of a curved form; that curve does reflect rays outward, but it does not follow that those rays take the form of a beam, which are collected together in the form of a beam; in fact, they are not in any of these exhibits, or in that patent.

Q. Is there any criss-cross and divergence of heat waves in the operation of the devices of the patent in suit?

A. There is to a small degree, a very small degree compared with the previous art. There is some direction outwardly in the previous art, but to a

(Testimony of George J. Henry.)

very small degree. The beam is formed very perfectly in the Brown heater, the device of the plaintiff, so much more perfectly than it is in any of the heaters of the previous art that there is no comparison as regards the utility of that beam form of heater. I know that from very close investigation in experimental work on a great many different forms. I have not made comparative tests of all the heaters which I have been criticising. I have made them of a great many different forms of reflectors. I have made a very close study of the reflection of a radiant energy from a heat unit on various surfaces and under varying conditions, but not with the specific devices I have referred to. [88]

Q. You have mentioned the fact that the devices appearing here as Defendant's Exhibits "A," "B," "C" and "D" have nickel plates; what significance do you attach to that?

A. Two very important points—the first one is very important; I do not consider it as efficient a surface for the reflection of radiant energy. The second is the question of appearance. I consider that the copper has a very superior appearance to the nickel. It suggests warmth.

Q. So far as the matter of efficiency is concerned, your opinion is based upon test, or theory?

A. Largely theory. I have made no tests on the nickel surfaces that warrant me in saying that.

Q. In the matter of the Plexism heater, a sample of which has been called particularly to your atten-

(Testimony of George J. Henry.)

tion during your direct examination, I desire to call your attention to Defendant's Exhibit 8 attached to and forming a part of a deposition on file in this suit, in which appears an illustrative diagram, and the following statement:

"When on circuit the appearance is that of a glowing circle of fire which produces a most cheerful effect of heat rays being thrown forward in a more or less parallel beam in any direction, according to the angle at which the reflector is swiveled."

In view of that, are you still of the opinion that the patent in suit is the first disclosure of the beam type of heater?

A. I certainly am. This reflector that you have referred me to, and particularly the diagram showing the arrows indicating supposititious divergent rays, I will say that in all probability those specific rays will be thrown out from that form of reflector, and that form of heater, but that is about all of the rays that will be thrown out, a very, very small percentage of the total heat. The rays that come from every [89] other point on that long heat-generating unit will be thrown at all kinds of angles, every possible angle. So that the actual rays which will emanate from there in an axial direction are but such a small percentage of the total that I am convinced more than ever that that form of reflector would be inefficient for the production of a beam. There is no question but that the man wanted to produce a beam, but he did not do it in this form of reflector, or in that form of heater.

(Testimony of George J. Henry.)

He would have to get up pretty close to that to feel the radiant energy. That is my opinion, with a given quantity of electrical energy expended, you will have to get up pretty close to that, with a Shoenberg form of heater, to feel the radiant beam. It will probably generate as much heat—there is no question about that, as Mr. Bean pointed out, but that heat will not be directed in the form of a beam with a sufficient efficiency to warrant calling that form of heater a beam heater. It will get hot itself, it will heat air around it locally a little bit, and heat will be extending that way; but in the Brown form of heater, the idea was and the result was that a larger percentage of that heat is gathered and thrown out in the form of a beam as radiant energy. This diagram which you have handed me is highly misleading; it is purely an advertising stunt; it is a salesman's idea of how to present a thing to the public and get them to buy, and I have no doubt he put it over. But it is as misleading as a diagram could be as regards the rays that emanate from the inside of that form of heater in action.

Q. That is, you would put it in the same class with the Majestic heaters that preceded the No. 1?

A. Generally speaking, as regards inefficiency in the production of a radiant beam, yes. The man who made this diagram undoubtedly drew his lines backward; he started out with straight lines indicating an emanating [90] beam which he wanted to obtain; he came back on to one spot of his reflector; then he made his angle of incidence equal to his

(Testimony of George J. Henry.)

angle of reflection, and found that would fall on the heat element at a certain spot, and he argues that that is the spot that reflects that beam. Well, it does. But what happens to all of the reflected rays from the other spots on that heat element; it is a great, long heat element, and every point on that heat element is impinging rays on the same identical spot on the reflector, and they are going in every possible direction. It shows a total misconception of the construction of a reflector and a heat unit to produce a radiant beam.

Q. Your contention then is, as I understand it, that the Brown No. 7 heater embodies a concavo-convex reflector, and that nothing prior to that did?

A. No, I didn't say that at all. My answer was very clear, that it embodied a concavo-convex reflector with a heat-generating unit about the focus or focal range of that reflector, and that as such I consider it the first in the art to produce an efficient radiant beam.

Q. When you say "about," you mean projecting through, do you?

A. I meant just exactly what I said, "around." The focus falling within the heat unit is what I meant.

The COURT.—Q. Would that be true of the Warner patent?

A. No, it would not be true of the Warner at all.

Q. Why isn't the heating element around the focus there?

A. I say the focus falling within the heating ele-

(Testimony of George J. Henry.)

ment. In the Brown we have a heating element like this, the focal point falls within that range.

Q. I was trying to get the sense in which you used the word "around" or "within."

A. Within the range of heat generation. The heat generation is off in here. It is a circle in this case.

Q. If that circle were closed, then it would fall within your definition? [91]

A. If it were all like this, yes. You mean if all this in here were closed up and all generating heat?

Q. Yes. A. That would be true.

Mr. CARR.—Q. Is that true of the defendant's heater, in your opinion? A. Is what true?

Q. I mean, is it true that the focus of the reflector falls within the heat element?

A. It does. The focal range does for a radiant beam. What you probably have in mind is this, Does the center of the circle which forms the reflector fall within the heat unit?

Q. That is the focus, isn't it?

A. No, it is not, in any sense of the word.

The COURT.—Q. I want to ask one question. Should I desire to experiment with these various devices by the use of light, as I understand you, the laws of light are substantially the same as the laws of this radiant heat energy?

A. As regards reflection, yes.

Q. In other words, if they would throw a beam of light, they would throw a beam of heat energy.

A. Yes; in that case your light source should be

(Testimony of George J. Henry.)

the same size and position as the heat source. If we think of these utilizing light in place of the heat unit, it is true that in every one of them you will get light reflections from your reflector. In the Plexism, you would get a decided light reflection, but if you will get off materially to one side you will also get your light reflections, by which is indicated that heat beams will also come very much to one side. If you take the form of the Brown and of the Westinghouse and stand in front of it with a source of light here, and the heat unit, by itself, will produce a source of light for you—it is the way to try them out; you will see the whole flowing bowl in each case at a material distance away in line with the beam, in line with the axis; if you get [92] a little bit to one side that disappears very rapidly, showing the light rays, and, therefore, the heat rays; they will diminish very rapidly as you get off to one side. In the case of the Brown, if you will set that 9 feet from you and then move at definite points at right angles to that axis 1, 2, 3, 4 and 5, feet from the center, you will find that your heat beam is growing slightly weaker; but at a distance of 2, 3, 4 and 5 feet you will find that it is over 100 per cent more efficient than the Westinghouse, due to the flattening out of the beam. At the center, at points of 1 and 2 feet from the axis, you will find that the Westinghouse will be more intense; it will fall off more rapidly, due to the differing positions of the heat unit. But in both cases you will get a decided heat beam 10 feet in diameter, or 10 feet wide, I

(Testimony of George J. Henry.)

will say, at a distance of 9 feet from the unit.

Q. Suppose you were to put an ordinary light bulb in one of the Shoenberg patent devices at the point where the heat element is now installed, would it or would it not show a distinct spot of light upon the wire, say 10 or 15 feet away?

A. It would not.

Q. But it would in the No. 7 or the Westinghouse?

A. It would. That would be a very nice way to test it.

Q. Why couldn't you read the reflector in the Majestic device, No. 7 into the patent claims of the Shoenberg patent, where it says a hemispheric dome-shaped reflector; that is, suppose you put aside these separate devices and just took the patent alone, I mean. I understood that counsel for the defendant read those terms from the patent.

A. The only claim, your Honor, that mentions that is claim 6:

"A dome-like reflector, having inner and outer members held in spaced relation by providing a chamber or channel between—" and so on. [93]

I can only say that I don't believe that the patentee had in mind the use of a reflector with a heat element substantially at or around the focal point of any particular curve which would produce a radiant beam. He does not speak of a radiant beam. He has in mind the throwing out of radiant rays.

(Testimony of George J. Henry.)

Q. But it does not say so in the patent in suit?

A. Not as a radiant beam. He spoke of it as radiant type of heater.

Q. What I am trying to get at is your view as to whether or not you could claim this particular structure now in suit, which is No. 7, under the Shoenberg patent? A. I doubt it.

Q. Why not?

A. Because I don't think the teaching is sufficient in the Shoenberg patent.

Q. Is this hemispheric, or dome-like, or not?

A. You can employ a hemispherical form, or dome-like form, if you place your element at the proper point in it to secure thereby a beam; but there is no suggestion in the Shoenberg patent of the recognition of any heat center or focus.

Q. Not in the Shoenberg patent?

A. No, sir; I don't find any.

The COURT.—What is there in the patent in suit?

Mr. MILLER.—(Reading from line 48, page 1 of the Shoenberg patent): "The reflector consists preferably of a highly-polished metal shell, 1, which is somewhat hemispherical or dome-shaped."

The WITNESS.—The word in there "somewhat" is thoroughly consistent with his drawing, which shows only part of the reflector made curved and the back portion of it flat.

The COURT.—Q. In the patent in suit, what is there to indicate the location of the heating element?

(Testimony of George J. Henry.)

A. It is mentioned in the claims, themselves, in one place. I will find it in just a moment. Take claim 1:

“An electric heater, comprising a concave-convex reflector, a heating unit supported at substantially the focus of said reflector.” [94]

Line 33: “In spaced relation with the reflector, 1, and preferably at the focus of its curved surface.”

The whole patent is based upon the theory of using a heat-emanating source at the focus of a curved reflector for the purpose of producing a radiant type of heater. For example, it says at line 9: “This invention relates to electric heaters in which the heat waves”—the use of the word “waves” is significant of radiation,—“are generated by a resistance coil or heating unit, and are then reflected from a highly polished surface.”

It was old in the art to employ reflectors for light, locomotive headlights, and things of that nature, but no one had used it for heat as a radiant beam. That is my belief.

Testimony of Edmund N. Brown, for Plaintiff (In Rebuttal).

EDMUND N. BROWN was then called by plaintiff in rebuttal and testified as follows:

After we put out our No. 7 on the market, other manufacturers put upon the market styles of electric heaters which they had not been marketing previously to our No. 7 appearing. The first of these

(Testimony of Edmund N. Brown.)

was the Hotpoint, a sample of which was marked "Plaintiff's Exhibit No. 3." After our No. 7 appeared, the defendant put on the market a heater represented by the Westinghouse heater here in evidence. Other manufacturers put heaters on the market. I herewith produce the heaters themselves. We have a laboratory full of them down town. Here is one put out by the Simplex Heating Company, the same being sold by Holbrook, Merrill & Stetson as jobbers in San Francisco. They appeared in the fall of 1918 after our No. 7 had been put on the market. The firm of Landers, Frary & Clark also put out a heater of that type, and I herewith produce a sample thereof. The Rutenber Electric & Mfg. Co. also put out a heater of that type, and I herewith [95] produce one. The Estate Stove Company of Hamilton, Ohio, also put out a heater of that type and I herewith produce a sample of the same. The General Electric, which is now amalgamated with the Hotpoint and Hughes Company under the Edison Electric Appliance Company also put out a heater of that type. The Hotpoint Company was afterwards absorbed by the Edison Company. The General Electric put out one type and the Hughes Company another type, and the Hotpoint another type. Plaintiff's Exhibit No. 4 was put out by the Hotpoint Company.

Cross-examination of Witness BROWN.

The manufacturers whose names I have just mentioned advertised their product pretty lively. The Hotpoint Company was a pretty big advertiser in

(Testimony of Edmund N. Brown.)

everything. They advertised very liberally. They advertised in the Saturday Evening Post and some National Magazines; we advertised in the newspapers, and through circular matter, and at Expositions, Fairs, etc. Since these suits have been started, Landers, Frary & Clark have practically taken their heaters off the market so I have been informed by the jobbers, and their advertising has practically ceased. I don't think the Rutenber people are doing any advertising to speak of. I have not seen as much advertising by the Estate Stove Co. this year as I formerly did.

On this point it was stipulated that the following testimony given by the witness Edmund N. Brown in case No. 492 should be copied into the present case, with the same force and effect as if given here, and the same is as follows: [96]

With reference to the use of alloys or wire made of alloys, other than the Marsh device, in these exposed heaters, we used either chronium or nichrome. We used Excelllo first obtained from the Herman-Bowker Company in New York. It was a wire that was on sale in the market, and we used it on all of our heaters prior to the time that we commenced to manufacture our No. 7. We had no trouble in getting that wire until after the War was on. The difficulty then was because of war conditions. We also used another wire besides the Excelllo called Calido made by a firm at Morristown, N. J. After the plaintiff started in its business in 1914, the first heating device we put on the market was a pendant

(Testimony of Edmund N. Brown.)

type, called by our trade name No. 1. The shape of the reflector of the device was what we called a pie-plate and is the same as the device which I now produce.

Here the device in question was put in evidence and marked Plaintiff's Exhibit 6.

(Witness continuing:) After that we put on what is called a kind of a dish plate which is represented by this model, Exhibit "A." It was made of nickel, and intended to be suspended from a point of suspension projecting from the wall or hanging from the wall. We do not offer that device for sale now.

The second device which we put on the market was known by our trade name No. 3. It has a glass knob, and it is represented by Defendant's Exhibit "D." We have not continued the sale of this device, and it likewise has been abandoned.

The next device we put on the market was the one termed by our trade name No. 10. That was the same shape as an oil stove. It had a back to it like an oil stove, about one-third of it—the front part was a guard, different from the ones we have on the other type heaters; it stood up on four legs. [97] It looked very much like an oil stove. We also discontinued the sale of that device and it likewise was abandoned.

The next device we put on the market was the one we styled by our trade name "No. 2," and represented by Defendant's Exhibit "B." We abandoned that device likewise as we did the other devices.

(Testimony of Edmund N. Brown.)

The next heaters we put on the market were designated by the trade names 1b, 2b and 3b, which were put on simultaneously. They were to take the place of our former Nos. 1 and 2 and 3. They had a bell shape which we thought would be more efficient. Defendant's Exhibit "C" represents the said 2b and 1b was the pendant type, and the one with two elements was 3b. The 1b was the suspension type, the 2b and 3b were the same with the exception of the number of elements. The 2b was to take the place of the former 2, and the 3b was to take the place of the former 3. We proceeded to sell the 1b, 2b and 3b, and we abandoned them later.

The next heaters were known by our trade names 4, 5 and 6. They were of the square type or box type, and are illustrated by a device which was put in evidence in the prior litigation and marked Plaintiff's Exhibit 18. There were three figures shown at the bottom of the said exhibit. They have the general appearance of a guard or fire place, and are called our box type heaters. No. 4 has a single element, No. 5 two elements, and No. 6 three elements. That and the dimensions are the only differences between them. We met with considerable success in the sale of our Nos. 4, 5 and 6 heaters, and have continued to sell them to this date, and carry them in our catalogue and stock.

The next type of heater we got out was known by our trade name No. 7, which is represented by my model in evidence here, and that is the one I have testified about on direct [98] examination. Our

(Testimony of Edmund N. Brown.)

object in getting out so many styles of these heaters was that I knew I did not have the one that I wanted until I got the No. 7. I was striving until I hit on the No. 7. I did not have the one that I thought was the proper heater. I tested that matter out by putting them on the market and before the trade and selling them, and in this chain of evolution I finally reached the No. 7 heater, and I found that out as I put them out to the trade. The others were abandoned all excepting Nos. 4, 5 and 6 (box type heaters) which we are selling to-day, but that is a different type of heater. After our No. 7 came on the market we didn't put out any other style or change the design. We got out what we called a No. 8 of the same design, only that we put two elements on it; that was to get additional heat. I might add that we are confining ourselves in the No. 8 to absolutely the same type reflector. Our sales of No. 7 which we put on the market in comparison with the sales of previous heaters increased, you might say, with leaps and bounds, I mean the No. 7 heaters. The No. 7 sold in much greater numbers, several times greater, you might say, as it went on, and the sale of No. 7 is increasing all the time. The present year is the largest we have had up to date in the sale of the No. 7 heaters. I want to say one thing. This year we are putting out a little larger reflector on our No. 7 and calling it 11, but that is the only change. We are calling it that to let the trade have something to distinguish it by. The diameter of No. 11 is 12 inches. We aban-

(Testimony of Edmund N. Brown.)

doned the four types of heaters and confined ourselves to No. 7 because we considered the No. 7 a better article, and we sold a great many times more of the No. 7 than we did of any other types. [99]

The photograph of our exhibit at the Panama Exposition which has been put in evidence shows our former heaters, No. 1, No. 2, No. 3 and No. 10, and there is one kind of a bird cage we had there, but it was only an experiment; we did not market them generally. We had one hung up on the wall that was portable also, but we did not sell many of these. Those were all of the portable type. The photograph does not show either 1b, 2b or 3b. Those, the 1b, 2b and 3b were gotten up in the fall of 1915, which was too late for the Exposition to be shown in the photograph. That series, 1b, 2b and 3b, was gotten up to take the place of 1, 2 and 3.

Referring to the heater of the Simplex Conduits, Limited, of London, England, designated as the British patent, which has been offered in evidence (Defendant's Exhibit "II"), no heaters of that description and appearance have been on the market in the United States that I know of, and my opportunity of determining what heaters are on the market in the United States is that I make it my business to always keep in touch with anything that comes out in our line.

Referring to the other heater which has been offered in evidence here, the Warner patent (Defendant's Exhibit "H"), I talked to some dealers and they tell me that that has been taken off the

(Testimony of Edmund N. Brown.)

market by Landers, Frary & Clark, the manufacturers. I have endeavored to find another one in the city here but have been unable to do so.

When we got up our No. 7 heaters, the heaters which we abandoned and discontinued were the "b" type heaters, 1b, 2b and 3b and No. 10, and previous to getting out of these types we had abandoned the others, 1, 2 and 3. Those prior heaters were abandoned because we were, you might say, in a period of evolution. We were experimenting all the time to see what was the best and we found the No. 7 a better heater, [100] more efficient, more ornamental to the eye and looked better. Since we put our No. 7 on the market, we have not put any other or different style of heaters on the market, except our No. 8 which is the same as No. 7 with the exception of having two elements. As to how our sales of the No. 7 compared with the sale of our previous heaters which were abandoned, they were so far ahead—they ran into the hundreds of thousands, that is the No. 7 did. We have not sold many thousands of the others. The trade liked the No. 7 better than the others; in fact, to state an expression of the trade, I can state one remark, that we had out now the right kind of a heater; and such like remarks.

Cross-examination of E. N. BROWN.

Our sales of the previous heaters, Nos. 1, 2 and 3 and 1b, 2b, and 3b, were not confined to the Pacific Coast. We were given to understand by the trade

(Testimony of Edmund N. Brown.)

that the reason why they seemed to like the No. 7 better than the preceding heaters was that they liked the appearance better; it was also a more efficient heater; they liked the appearance. They made the remark, "Now, you have got something that looks right." Never prior to our No. 7 heater did we market a heater of portable type having a burnished copper reflector. In regard to our ability of disposing of all the heaters of the beam type we have been able to make, I will say that we have restricted our manufacture on account of the infringement. We could make a great many more than we are making to-day if we knew that our rights were being protected. We have not been able to dispose of all we made. We carried over some last year. I believe we could supply the entire trade of the country if we had an unrestricted right.

The Excelllo wire referred to by me is similar to the Marsh patent wire. We took a license under the Marsh patent because we knew we would be infringing if we did not, and that [101] we would be subject to being sued.

We have a few of the heaters preceding No. 7 on hand of different types that we have been unable to sell, but we do not list them on the market. We have not been able to dispose of those heaters.

Defendant then produced a pamphlet or folder and the witness identified it as a pamphlet which plaintiff is now getting out, containing illustrations and reading matter on heaters Nos. 4, 5, 6, 7, 8, 11,

(Testimony of Edmund N. Brown.)

15, 30 and 35 types, and stated that said catalogue represented all the types of heaters which the plaintiff was now marketing except No. 9, which is similar to No. 8, only that it has two more heat units, and in proportion is a little larger in size. The document was then offered in evidence and marked "Plaintiff's Exhibit 9."

Defendant also offered in evidence an exhibit referred to in the former case as "Plaintiff's Exhibit 18," for the purpose of showing the types of heaters of the plaintiff, numbered 4, 5 and 6, and the same was marked "Plaintiff's Exhibit 10."

At this point it was stipulated between counsel that the testimony given by George J. Henry in rebuttal in the prior case No. 492 should be copied into the record of the present case with the same force and effect as if taken in the case at bar, and the same is as follows:

**Testimony of George J. Henry, for Plaintiff
(In Rebuttal).**

GEORGE J. HENRY, being duly called as a witness on behalf of plaintiff, testified as follows:

I am 48 years of age and reside at the City and County of San Francisco. I am mechanical and electrical engineer and patent solicitor. I have been following the profession [102] of mechanical engineer for 26 years; and I have been engaged in designing and manufacturing mechanical and electrical and physical devices over practically all of that period of time. I have taken out a number of

(Testimony of George J. Henry.)

patents on inventions of my own. I have practiced before the Patent Office for the last seven or eight years in connection with my professional work. I am a member of the American Society of Mechanical Engineers, American Society of Civil Engineers, associate member of the American Institute of Electrical Engineers. I have examined a great many mechanical devices, including heaters, and electrical devices generally, reported on some of them, and had a good deal to do with the designing of many devices in this field.

The Morse patent 881,017 of March 3, 1908 (Defendant's Exhibit "F") shows an incandescent electric bulb mounted inside of a reflector, and a wire cage or guard stretched across the reflector in front of the incandescent lamp. The device is labelled "Heating device." The reflector is presumably of hemispherical shape, and the lamp is materially out of focus in the curve in Fig. 1, the wire screen set relatively close to the lamp and well within the reflector. The device is a therapeutical instrument and is intended for that purpose. The invention relates to a device for applying heat to a portion of one's body, and is intended to be used in the practice of therapeutics. It is a small instrument to be taken in one's hand and carried around and applied to any place where you want heat transmitted. It is principally for that purpose. The handle of the incandescent lamp serves as the handle for the device, and also as a socket for the incandescent lamp. It has no standard or anything

(Testimony of George J. Henry.)

of that kind, and is for the purpose of concentrating the heat upon the affected parts as you move it around in your hand from one spot to another to [103] apply the heat, apparently by setting it directly over the part itself, not by reflection, but by holding the heat of the bulb within the container.

In the English patent, entitled "Simplex Conduits, Limited" (Defendant's Exhibit "II") I find a conical-shaped container fluted on its outer surface, at least in the preferable form and in all the forms illustrated. It is mounted upon a standard and swivels in any direction, the standard carrying a U-frame which is pivoted to the conical-shaped reflector. The heat element is a long resistance wire *would* upon insulating material located about the axis of the cone, but not coincident with the axis. A wire screen is stretched across the front of the conical opening, so that the whole thing has the appearance of a funnel. The device which you now hand me appears to be the device described in the English patent. The interior of the cone is corrugated, made of copper or plated with copper. The wire screen is a wire mesh, what is known in the trade as wire cloth or wire mesh, fixed in an annular frame, which may be slipped over the front of the heat opening of the conical reflector. It is mounted on horizontal trunnions and also on a vertical swivel or trunnion, so that it can be swung in any direction up or down, or around a vertical axis. That portion of the specification which refers to changing the cone to a parabola, commencing at line 25, page 3 of the specification, reads as follows:

(Testimony of George J. Henry.)

“We have found that a diameter of the large end approximately equal to the depth of the cone gives good results, but the cone angle may be greater or less than that was indicated, or the reflector may be in longitudinal section, in whole or in part, or of a parabolic or the like contour, according to the form desired for the emergent beam of rays.”

With regard to the sufficiency of that disclosure as to instructing a person to make the heater of parabolic shape instead of conical shape, I don't think it is any more specific as regards any other shape than that shown that would be perfectly apparent to anyone in the art. A parabolic reflector [104] to have any useful function, would have to be, as the expert on the other side, Mr. Beam, stated, it would have to have its source of heat located at the focus of the parabola; and with the long element that is here shown, I cannot see how a parabola could possibly be effective, for the purpose of directing the rays in any better shape than this cone does. After carefully reading the patent, I came to the conclusion that the inventor had in mind, rather, the form of the curve of these inverse flutes rather than substituting a parabolic form of the whole cone. These individual flutes might easily be curved parabolically in such a way that the focus of the parabola, or rather, the locus of the foci of the parabola of a single flute would be coincident with the center of the heat element; but I cannot conceive a parabola in the plane of a heat element as the

(Testimony of George J. Henry.)

substitution for this cone which would perform any of the functions of reflection aimed at by the patentee when he says, "You can direct the beam as you choose by changing the shape of the reflector." With such a long heat element, the divergence from the focus of any single parabola would be so great over most of the portions of the heat element that your emitting area would not be anywhere near a parallel beam; it would be widely divergent from it. I am very sure that the most accurate parabola that could be constructed as a substitute for a curve—and I have in mind now such a parabola as has been presented here as made by the Westinghouse company—such a reflector as that, I am very sure, would get hot and make a divergent beam that would cross a dozen times, probably, in the parabola before it got out, and would make a very wide divergent beam. I am referring to the model made by the Westinghouse Company of the English Simplex patent, or any similar reflector made of parabolic to be this form of heat element and based on any teaching contained in the Simplex patent. The [105] conical fluted type of reflector is the only one shown in the illustrations.

Plaintiff then offered in evidence the device representing the English patent testified to by the witness, and the same was marked "Plaintiff's Exhibit 7."

I have examined and understand the Warner patent, No. 1,120,003, dated December 8, 1914, Defendant's Exhibit "H." The device which you now

(Testimony of George J. Henry.)

hand me I believe to be the same device as described in this Warner patent. The striking feature of this device when you look at it from the front is the heat element, and its location with respect to the other parts. It is annular in shape and occupies a large portion of the entire device. The large cage covering it is very prominent in appearance. Of course, if the device were lighted up the incandescent lamp will also be a noticeable feature. There is an incandescent lamp in it, and the lamp is also shown in the model which you *hand* handed me are concerning which I have testified.

Plaintiff then offered in evidence the said device or model referred to by the witness as representative of the Warner patent, and the same was marked Plaintiff's Exhibit 8.

(Witness continuing:) The device which has been put in evidence by defendant and marked Defendant's Exhibit "L" is representative of this Warner patent, and I do not consider it a fair representation thereof. It has a very materially different appearance. The same elements are present, and probably function the same way, but they are materially different in size of proportion and respect to each other. The heat element is located much deeper in the reflector than in the first one you handed me. It is also much smaller in cross section relatively, resulting in a very much less prominent appearance. It is the dominating element in the appearance in the patent drawing and also in the heater which you have handed me (Plaintiff's

(Testimony of George J. Henry.)

[106] Exhibit 8) as distinguished from Defendant's Exhibit "L."

Referring further to the English Simplex patent, I note that it does not very prominently show in its illustration a guard wire over the front. It states that it should be fitted with coarse wire mesh or the like, but that does not appear in the illustration, it is not shown in the illustration.

Referring to a model which has been put in evidence by the defendant marked "Defendant's Exhibit 'J,'" as illustrative of the Simplex English patent, I do not consider that the model correctly represents the patent, although it might easily be a construction which one skilled in the art, looking at the Simplex picture and reading the Simplex description, might arrive at a variation. It is materially different from the drawings in the Simplex patent. The heat element is relatively shorter. The reflector is curved and smooth on its inner surface instead of fluted, and is provided with a special form of wire guard, whereas no form of wire guard is illustrated in the Simplex patent.

Cross-examination of G. J. HENRY.

On cross-examination the witness testified as follows: I am a practicing attorney as well as engineer, and at present am associated with Mr. Miller, counsel for plaintiff, in connection with some work. I have stated that the drawing of the Simplex Conduits patent, No. 19,971 of 1913 shows no guard for the heater. I consider that part marked "H" shown in Figs. 2 and 3 of sheet 1 of the draw-

(Testimony of George J. Henry.)

ing, also in Fig 7, to be the frame work on which the patentee intends to stretch a wire mesh, which wire mesh is mentioned in the specification. The specification does say on page 3, line 21, "The end of the reflector is fitted with a guard H, to protect the heating element." Now, if he intended the element H of Figs. 2, 3 and 7 to be the guard for the heating element, then I am at a loss to interpret some of his drawings. [107] Take, for example, Fig. 7: This Figure 7 is "A view similar to Figure 3 of a modification with three heaters." He shows the lines H commencing apparently at the small end of the cone and entirely disconnected in any way from the outer ring; consequently I cannot see, judging from that figure alone, how that can be a guard across the front of the reflector, although it might be a ring inside and around the three elements of Fig. 8. The same testimony applies to the showing in Figure 3. The guard seems to be away inside of the reflector. I find nothing in any of the other figures to clear up such a hiatus. Figure 2 shows the guard H extending apparently all the way from the outer ring and as such it would be a three-wire guard extended across the front of the heater with a circular opening at the center; but it would so radically diverge from the wire mesh mentioned in the body of the specifications, that I am inclined to think he did not mean it as a guard across the front of the heater in the sense of the wire mesh shown, for example, in the

(Testimony of George J. Henry.)

model Plaintiff's Exhibit 7. I have criticised the portion of the patent specification relative to the parabolic curvature reflector as not adapted for use with the heater element here shown, on account of the length of the heater element. It has not occurred to me that if the reflector were made more shallow the heater element would naturally be made shorter to correspond. Quite the contrary. With the type of parabolic reflector shown in Defendant's Exhibit "J," the heat element would be shorter rather than longer. Generally speaking, the shorter the distance between the focal point and the directrix in two parabolas, the less will be the permissible area of volume within which your heat should be generated. In this case of Defendant's Exhibit "J," we have rather an acute parabola, one in which the focus is very deep seated, nearly to the bottom. The result would be that your heat element in such parabolic reflector would be very [108] much smaller proportionately than if the focus were much further forward; in other words, if the parabola were flatter. I take it that it is well within the scope of the presumed knowledge of the designer to proportion these parts to suit the conditions imposed by the laws of heat generation and radiation. If you have any definite set or parts to work to, he could undoubtedly proportion a curve that would be well suited to those particular parts, but my testimony was in reference to a long heat element. In this particular Defendant's Exhibit "J" type of

(Testimony of George J. Henry.)

parabola, it is a fact that the heat radiating from the outer portions—I think I am safe in saying that nine-tenths of the outer portions of the heat units upon being received upon the wires by the reflector will be projected inward into the reflector instead of outward.

THEREUPON PLAINTIFF RESTED.

At the request of defendant's counsel it was stipulated that the following testimony of the witness Victor S. Beam given in case No. 492 should be copied into the case at bar with the same force and effect as if taken herein, and the said testimony is as follows:

Testimony of Victor S. Beam, for Defendant.

I am 44 years of age and reside at Maplewood, New Jersey; my occupation is electrical and mechanical engineer with offices at 165 Broadway, New York City, I graduated in Electrical Engineering from Princeton University, in 1899. From there I entered the employ of the Westinghouse Electric & Mfg. Co. in July, 1899, and have been connected with that Company either directly or indirectly ever since. I am still in the employ of that company. During my employment with the Westinghouse Company and others I became quite generally familiar [109] with the design and operation and construction of various electrical devices and machines manufactured in this country and have always followed the electrical heating art

(Testimony of Victor S. Beam.)

quite closely. I am quite familiar with the laws and rules governing those devices and the design and operation of the same.

The following question was propounded to the witness by defendant's attorney, viz:

“Q. Please give the pertinent portions of the history of this specific art as applicable to the plaintiff's and defendant's heaters now before the court?”

Plaintiff's counsel objected to said question as entirely improper because it calls for the opinion of the witness in that it calls for what he considers to be the pertinent part of the prior art and also those parts that are applicable to this device.

The objection was overruled, to which ruling plaintiff excepted, and thereupon the defendant's witness answered as follows:

“A. These devices and the patents relate to a special form, a special type of electric heating, namely, the heating of the object; they are not attempting to heat the whole room or enclosure in which the object is located. The object is usually a person who wants to be warmed, and that purpose necessarily brings in the matter of portability; the device should be portable, so as to be carried around from one place to another in the room, or from one room to another; and of course, if the owner moves from one part of the city to another, to take it with him. It is related quite closely to the electric light art. It was quite old to have flash lights to carry around when you wanted to light up a particular object; you would not

(Testimony of Victor S. Beam.)

have enough current to light the whole room, but you would simply light the particular object you were interested in. They have search-lights on boats and other places, selective in application so that they only light up one or a few objects at a time. [110]

They have had flood light projectors, in which large quantities of light were generated, and used to light up large objects, and oftentimes buildings. That art is quite old. Flood lighting was done in numerous places, and I daresay it goes back to 1905 and 1906, at least, but it reached almost perfection at the Panama Pacific Exposition in 1915 at San Francisco. The previous World's Fairs had been lighted in a very extensive manner, with the requirement of wiring the outside of the building. At the Buffalo Exposition in 1901, that was quite a feature; they used current from Niagara Falls to light up the outside of the building, in order to get the esthetic effect. That was much advertised. In the exposition in 1904 at St. Louis that plan was likewise followed, but at the Panama Exposition in San Francisco they simply selected the object in a large area and lighted that up. Also headlights use the same scheme. Of course, heat and light are really undistinguishable, because no one has yet produced a source of light that does not give heat; that is the great object that nobody has yet done. Likewise, when you try to get electric heating, you do not get it very effective unless you have some light with it to attract the eye; you must light up the device, because there is a certain amount of psychology about

(Testimony of Victor S. Beam.)

it; you have got to have people attracted by the heat and the light.

Now, the first projecting device for heat of which I have knowledge was the device shown in Morse's United States Patent, No. 881,017. There an incandescent lamp, probably an inefficient one, was placed in front of a concave surface, with a guard in front to protect it, and that was used as stated in the patent, to concentrate the heat upon the affected part. In that particular case, it was sought to apply heat to certain portions of the body; that would be usually held quite close [111] to the body, but it has the principle there of selecting the object you are going to heat, and throwing the rays all in one direction. Quoting from lines 71 to 77 of this patent, I read:

'The feature of mounting the electric lamp in a horizontal position within the reflector is considered highly advantageous, as by this arrangement, the lamp projects its heat more efficiently onto the surface of the body, and furthermore, the socket of the lamp then operates effectively as a handle, facilitating the handling of the heating device.'

There in that device you have both heat and light projected in a beam onto a selected object.

Now, another early device was gotten out by the Westinghouse Electric & Manufacturing Company about 1912 or 1913 and was shown in the Geiger patent, No. 1,194,168, granted August 8, 1916. This device was put on the market, and has been on sale ever since by the Westinghouse Company. That

(Testimony of Victor S. Beam.)

device consisted of a concave structure, a shell somewhat resembling a seashell, the idea being to make it extremely ornamental; the heat source in that case was carbon wires or coils inside of tubes. It is, in effect, an incandescent electric lamp, although of low efficiency, so far as light is concerned. But the device was made in considerable quantities, and gave out both heat and light, and projected the rays of both heat and light in a definite direction, selective, so as to light and heat the object. The patent says, 'Although the reflector 8 is shown of the clamshell design, it is understood that such a reflector may be of any other design or form,' and as to the source of heat and light it says 'preferably it should be of luminous type, preferably arranged side by side and extend upward in front of the reflector. It is understood that other suitable types of heating units may be employed with my invention.' [112]

Now, that device was extremely ornamental; it was not as efficient as some of the devices to-day, and of course it is objectionable in that these lamps break quite readily; an incandescent lamp at its best is quite fragile, and it has many objections, but it was highly ornamental. I have one of these here, and produce the same, which consists of a clamshell coppered on the inside, pleasing in appearance, with incandescent lamps placed within the curvature of the shell, and is a device that a housewife would not certainly object to having around. They might not possibly buy it simply for the beauty of it, but it certainly is more pleasing in appearance than some of

(Testimony of Victor S. Beam.)

the more practical devices which have followed it. That, as I say, was built by the Westinghouse Company quite a number of years, and it was about the only type of heater that it could build at that time, prior to say the middle of 1917, because while it was recognized that incandescent lamps were not the best sort of thing to generate heat for that purpose, the advisability of utilizing the more efficient form of wire was doubted by the Westinghouse Company, first because there was considerable doubt about the wires which were then on the market standing up, that is, their resisting oxidation, and the other handicap that presented itself was the patent situation with respect to the nickel-chromium alloy of the heating element, the only heating element that would stand up in exposed conditions, when being burned or illuminated. When an electric wire is exposed to the air, heated to a luminous state, it is attacked so readily by the oxygen of the air that it almost immediately burns up; the carbon filament in a lamp would not last an instant if exposed to the air; they have to put that in a vacuum. Of course, there are a lot of heat applications where you cannot use lamps, and there were devices using wire on the market, but to a great extent they were in places like [113] in a flat-iron where your wire is covered up and not exposed to the air, so that while there were, prior to the middle of 1917, considerable heating devices on the market, and quite a number with the wire exposed, yet there was a patent situation there that had not been cleared up, and it was not until

(Testimony of Victor S. Beam.)

1917 that the Westinghouse Company felt free to extend its operations in that particular field. That patent situation was the result of a patent to Marsh, that was granted in 1906 but it was some years before it was put in litigation, and it developed very slowly under it, because it was held by a comparatively small company, and the litigation was longdrawn out, and that was not finally decided until some time in 1915 by the Court of Appeals of the Seventh Circuit, the case of Hoskins Electric Manufacturing Co. v. General Electric Company. In that case, from which I have an extract, the court pays great tribute to the alloy for making up a heating device. It said:

‘The invention of toasters, heaters’—

Mr. MILLER.—I object to his going into this matter. I don’t know what he is reading from, so far as that is concerned, but I do not think it is proper for him to go into a matter of this kind regarding the Marsh patent. The Marsh patent decisions are reported in the Federal Reporter, and we have access to them.

The COURT.—Yes.

A. (Continuing.) That alloy which is sold under various trade names, one of which is Nichrome, has the distinguished ability to stand up, to resist oxidation when it is red hot, and it is the use of that alloy, the availability of that alloy to the electrical art that has made possible a large number of devices and particularly the devices in question here; that is, the radiant heaters, where the heating element must necessarily be exposed to the air when in operation. [114]

(Testimony of Victor S. Beam.)

I may have given the impression yesterday that a nickel chromium composition was the only wire that could be used in an exposed heater of that sort. I should correct that, as it would be possible to use platinum if the same could be obtained, but as that is very scarce and very expensive, it is practically out of the question.

The next and perhaps the most interesting prior device of the reflecting heater is that shown in the British patent No. 19,971, of 1913, of the Simplex Conduits Limited. That shows a reflecting heater in several views. The reflector is shown in the figures as a fluted cone, but it mentions in the description that that reflector may have various forms, one of which is a parabola. That appears to be the same device that is shown in exhibits Nos. 9 and 10. Now, the form shown in the drawings is rather of an ornamental nature, in that it has the fluting. That does not tend to its efficiency.

Mr. MILLER.—I object to this line of testimony.

The COURT.—Yes.

Mr. MILLER.—When he undertakes to say that it does not tend to its efficiency, or something like that, that is something beyond the theory of this case.

The COURT.—Yes, I think so.

A. The device as shown in Figure 1 consists of a stand which is somewhat like the stand that is used for electric fans. It consists of a dome-shaped piece, and of a vertical standard, and then mounted in that is a U-shaped trunnion; that is the form illustrated in the Westinghouse device in this case; then the cone-

(Testimony of Victor S. Beam.)

shaped reflector is mounted so as to tilt in that trunnion, and, therefore, the direction of the light rays is adjustable. Figure 1 is a side view of the whole device, Figure 2 is a front view, the trunnion arrangement [115] being shown in dotted lines. Now, as I say, the fluted cone-shape is shown in that figure for the reflector, but in the provisional specifications it is set forth that the condensed beam of rays may be divergent or approximately parallel or convergent, meaning that the reflector may have various forms, and then, further along, in the second paragraph it says the reflector is preferably in the form of a cone, this being a shape which can be cheaply rolled into form out of a sheet metal. Then, further along in line 34, it says, 'or the reflector may be in whole or in part of parabolic or the like contour, according to the form desired for the emergent beam of rays.' Then, further on, line 40, in respect of the reflector, it says:

'It may with advantage be corrugated or fluted, as this stiffens it and improves its internal appearance when the heating element is incandesced.'

So that while it is shown as a corrugated reflector, it is contemplated that it be perfectly smooth on the inside and that it may take the form of a parabola, or the like.

Further, in the provisional specifications line 42, it says:

(Testimony of Victor S. Beam.)

‘We prefer to mount the reflector pivotally on a forked stem, which, itself, can pivot on a foot bracket, so that the beam of rays can be turned to point in any direction.’

And then in the complete specifications, line 37, it speaks of the color of the inside of the reflector; it may be of a cast metal lined with copper, and that it may be wholly corrugated. The heating element in this case is arranged in line with the longitudinal axis of the cone or the parabolic reflector, as it may be, and that is an arrangement of coil tends to give uniform distribution of the light rays. It must be recognized in this art that you cannot get your source of light down to a single point. Your coil takes up space, and therefore you [116] cannot get your light source at any geometric or mathematical point; so that you may go to a great deal of trouble to get your reflector mathematically perfect, but you will be thrown out from your calculations by the fact that you cannot get your heating element down to a point; it takes up a space, and, therefore, it is quite advisable to make your reflector conform to the shape of your heating device, or accommodate itself to the requirements of the heating device. A guard is shown in this patent designated by the letter H. It is shown in Figures 2 and 3. It consists of a central ring, with three radiating spokes to support it. I have had a device made up in accordance with this patent for illustration and herewith produce the same. I have had both the corrugated reflector and the parabolic reflector made. The parabolic re-

(Testimony of Victor S. Beam.)

flector is mounted in the trunnion, and the corrugated reflector is separate. The form of guard shown in that particular exhibit I have made up is that shown in exhibit No. 9 in this case.

Another illustration of the prior art devices is the Warner patent No, 1,120,003, granted December 8, 1914, United States patent. That patent shows—

The COURT.—Cannot you save time by introducing these? I think they are clear enough without lengthy explanations of them.

Mr. CARR.—I do not think it is necessary for the witness to state very much. He might state a word or two with reference to the patent.

The COURT.—Where there is a cut or illustration together with an explanation, it would seem to be quite obvious. It is a question largely of appearance.

Mr. CARR.—I think perhaps that any features that might be deemed necessary and advisable to bring more definitely [117] and specifically to your Honor's attention could be done in the argument.

The COURT.—Yes.

Q. You say this is an American patent?

A. Yes. I was simply going to add that that form of heating coil is not the best, and they had used the lamp in there to illuminate the device, to get the red effect. It shows a concave bowl, mounted on a stand, handles for carrying it. It has, I would say, a rather inefficient form of heating coil, and they have taken the precaution of putting a double casing on there in

(Testimony of Victor S. Beam.)

the rear of the reflector. That is to prevent the part that the public might touch, marked "c" from becoming heated from the coil—as a matter of protection there. There would be a dead air space in between the curved line "e" and the curved line "f."

Another American patent is one to Milton H. Shoenberg, assigned to the Majestic Electric Development Company, San Francisco, and is numbered 1,109,551, and dated September 1, 1914. One particular thing shown in that patent is two linings to the casing, the dead air space in between, as shown specifically in Fig. 10; it has the bowl-shape reflector, the heating element arranged within the curvature of the same, and it has a guard to protect the heating element from being touched. I would call particular attention to the arrangement of the heating coil with respect to the reflector. You will see that that arrangement runs through all of the devices produced here as the product of the Majestic Electric Development Company, the plaintiff. The coil is arranged transverse to the longitudinal axis of the reflector. That arrangement of the coil has some drawbacks, as it is difficult to arrange it uniformly with respect to the reflecting surface, and portions of the [118] reflecting surface are liable to get very warm, and it is necessary to take some precautions to overcome that arrangement. In the latter forms of the Majestic devices, a flange is provided for protecting the public from being burned by the heat which would be generated in the reflecting surface, and also there is provided that double casing, an

(Testimony of Victor S. Beam.)

additional curved member at the back of the reflector, so as to prevent the public from touching the heated reflector. As I understand it, the intent was to get the coil as near to the focus as possible. Looking at it one way, that is accomplished, but since the coil must have length, it would get very much out of focus at the ends, and that is the part that causes the trouble in the heating of the reflector. That necessity for the flange in the Majestic devices, and likewise for the extra casing is clearly set forth in patent 1,245,084 to E. N. Brown, dated October 30, 1917, in which it says:

At this point counsel for plaintiff objected to this testimony, as being directed purely to the utility of the device, and that the witness is now proposing to read from another patent and the court ruled that the objection was well taken.

Thereupon the witness continued as follows:

A. I simply want to mention that the Porter U. S. Patent No. 684,459, granted October 15, 1901, shows a form of guard which might be used in this form of heater; although the device there has the appearance of a fan, and is a fan, it is a fan equipped with a heating element, so that it may blow warm air instead of cool air. When the Westinghouse Company started to design the present type of heater, it had available the straight-line coil of the Simplex Conduits device, and it had the curved reflecting device of the Warner patent, No. 1,120,003. It recognized the fact that it could not get a heating coil at a single point, and that the coil would have to have length, so it arranged its

(Testimony of Victor S. Beam.)

coil in the same order that the Simplex Company of England, had arranged its coil, and utilized the curved reflector of the [119] Warner patent, although it is also clear from the Simplex Conduits Company patent that practically any form of reflector may be used. I have shown in the exhibit 1 one form of parabola, but as a parabola may take many forms, depending upon the distance that you take between the point called the focus and an outside line called the directrix, the law of a parabola being that the distance from any point on the curve to the focus must be the same as the distance to the line on the directrix; but the parabola, as I say, may take many different forms, and when you get a parabola of a wide flare, that is, the distance between the focus and the point on the line, large, you approach a curvature of a circle, so that like in some of the devices here, though one may be a parabola and the other a circle—it is extremely difficult to tell which—a reflector in the form of a segment of a circle cannot, strictly speaking, have a focus, and in the Westinghouse device it is not attempted; it is recognized that it could not have a focus, and no attempt is made to get one; in fact, the heating coil is strung along, extended along the longitudinal axis, and the curve of the reflector is made so as to accommodate that, so that the light, going from any point on that coil, is reflected properly. The Westinghouse device has a reflector corresponding to the arc of a circle, and that gives a very wide beam of light, and the coil being arranged on the transverse longitudinal axis,

(Testimony of Victor S. Beam.)

gives a very good heat distribution over the surface of the reflector, so that the reflector keeps cool itself and it needs no provision for protecting the public from the heat, and likewise it has no double casing at the back to provide a dead air space and prevent the public coming in contact with heat. Of course, it has a guard in front to protect the public from coming in contact with the heated coil, such as they provide guards on electric light reflectors and on fans; they are very old and necessary expedients. [120]

The COURT.—Q. You say the reflector on the Westinghouse device does not become hot?

A. No, not as on the others, where the coil is not arranged properly.

Q. It does not become as hot as the Majestic?

A. No; that has been my experience. The reason for that is, the Westinghouse device is not designed along mathematical or geometrical lines; its design is rather imperical; but it was designed with the appreciation that a straight-line coil on a longitudinal axis is the only proper device; and it has discarded the [121] idea of making the reflector parabolic. A parabolic curvature is theoretically the proper one, if you have got a point for the source of your light and heat. In this case it is both light and heat. If you want strictly parallel rays, you only need to take a parabola and put a point of light at the focus and you will get strictly parallel rays, but the difficulty of that is that your coil must have size, and when you get out of the focus then that more than overcomes any nicety

(Testimony of Victor S. Beam.)

which you have in mind in arranging the curvature of your reflector."

Continuing in answer to questions propounded by defendant's counsel the witness testified as follows:

There are not any features or characteristics of Defendant's Exhibits "A," "B," "C" and "D" which are not readily and obviously apparent to the Court as to which I could give any enlightenment. I think they are all quite clear on the face. I have called attention to the arrangement of the heating coil and called attention to the fact that there are some elements of the earlier ones, the fluted stand, for instance, that is not in the latter device, that is not in the No. 7 heaters. A close inspection shows that the reflectors of all four devices built earlier than No. 7 have a single thickness, that is, in the earlier devices, No. 1, No. 2, 2b, and 3 (Defendant's Exhibits "A," "B," "C," and "D") had a single thickness of the reflector on the back, whereas in No. 7 there are two thicknesses giving a dead air space in between. I might add that double casing allows of bringing out of the electric leads a little better form. You will notice that in all of these prior devices there are two exposed terminals, requiring insulation, sufficient to protect from the atmosphere, whereas in the No. 7 device all that is arranged on the inside, between the two casings, so that the leads come out through a single opening; that is a much better arrangement. Of course the reason for the two connections comes from [122]

(Testimony of Victor S. Beam.)

the fact that they use a transversely arranged coil, and it is necessary to make contact at the two ends of that coil; of course the coil being long requires that the connections to it be quite a distance apart, so that necessitates bringing the contacts out from the rear of the casing at quite a distance from each other. I might point out that with the straight line form of heating coil, as used in the Westinghouse device, that connections to the coil can be made much more readily and without having a double casing. Of course, I point out that the earlier devices were nickle plated, whereas the later ones are copper colored. With reference to No. 1, 2, 2b and 3 appearing here as Defendant's Exhibits "A," "B," "C" and "D," those early devices do not have the marginal, relatively wide marginal flange and the double casing found in No. 7 Majestic heater, those earlier devices do not have those protective features.

Cross-examination of Witness BEAM.

On cross-examination the witness BEAM testified as follows:

I am one of the salaried employees of the Westinghouse Electric & Mfg. Co. and have been such since 1916, but either directly or indirectly I have been connected with them since 1899. The principal place of business of that company is at Pittsburgh, but they have offices in New York City, and I have a room there in those offices as any other employee would have. I am the mechanical and electrical expert employed by them in reference to their

(Testimony of Victor S. Beam.)

various devices. In reference to nichrome wire used in some of the devices, it is the wire referred to by me as being covered by the Marsh patent and used by the Westinghouse Company in its coil under a license from the owners of the Marsh patent. The final arrangements for the license were made in the middle of 1917, prior thereto the Westinghouse Company used in the unexposed heating element a wire made by the [123] Driver Harris Company which had no chromium in it, and also some nichrome wire made by the Driver Harris Company and some excello wire, a German wire. While the final arrangements with reference to the license were not completed until the summer of 1917, we actually had the license through our subsidiary company, the Westinghouse Electric Products Company, some time before that, but there was considerable litigation over the matter so that the whole subject was not cleared up until the summer of 1917. This Excello wire which I referred to was on sale in the United States, but during the war it was impossible to get it. I believe it was on sale as early as 1912, and I believe anybody in the United States could use it who chose to purchase it, if he overlooked the Marsh patent for the time being. The Westinghouse Company had used some of this excello wire but they used as little as they could.

Mr. Thornton and Mr. Forsbee got up the design of the Westinghouse heater that is involved here. Mr. Thornton was an engineer in the heat-

(Testimony of Victor S. Beam.)

ing department and Forsbee was his assistant, I believe. Neither of these gentlemen came out with me and they are not available as witnesses here. Mr. Thornton is at Mansfield, Ohio, and I don't know where Mr. Forsbee is.

When I said that the Westinghouse Company had at that time available for use in getting up their design this Simplex Conduits English patent, I mean simply that that was an open public document that they could refer to if they desired, a part of the prior art. I suppose you could consider the Brown No. 7 heater a part of the prior art in a sense. I believe the Westinghouse Company began getting up this design in the latter part of 1917, but production was held up on account of the war until the latter part of 1918 I believe. As near as I can recollect, the first ones were put on sale in the latter part of 1918. [124] When I say they had available for their purpose this English patent, I do not think that they placed the English patent before them and proceeded to make a design corresponding with that patent; engineers do not usually work that way. They also had available in making up the design everything that was known at that time. They may have taken a Brown No. 7 heater and examined that and looked it over and noted its characteristics at the time they got up the Westinghouse heater. I do not know of my own knowledge regarding that matter. The Westinghouse Company has a heater here which has a clam shell reflector. They began to manufacture and sell that

(Testimony of Victor S. Beam.)

device in 1912 and 1913, and they sold devices of that kind. Mr. Geiger got up the device, and he is the gentlemen to whom the patent was issued and it has been assigned to the defendant. Defendant's counsel has produced a heater here which consists of a deep, parabolic reflector mounted on a stand, which could have been made in that way instead of making it in the way of a fluted cone. That particular device was made in Mansfield, Ohio, at our plant, and was manufactured for illustrative purposes in this case, as an interpretation of the patent. It was not manufactured for sale. We have not any like that for sale. The other device consisting of a fluted cone, that is in the same category, that is to say, it was made for illustrative purposes in this case in our plant at Mansfield, Ohio, as an interpretation of the British patent, possibly, well, possibly under my direction and possibly under Mr. Carr's. I was present at Mansfield, Ohio, when it was being made, and I think the only actual suggestion I made was to make the casing a bit thicker so that it would hold its shape. Mr. Thornton really supervised the actual construction. Mr. Carr instructed Mr. Thornton and I did, too, to make it according to the construction of the British patent.

Instructions were given by Mr. Carr as to how to make it. [125] In making the Westinghouse heater which is involved in this case, we made a flat curve instead of a deep one as shown in the Simplex Conduits device because we wanted a little

(Testimony of Victor S. Beam.)

wider spread. With a longitudinal arrangement of the coil we would have to make the bowl to fit it to get the best distribution of heat on the radiating area. They apparently found that that shape caused the best heat distribution. I am sure that is what they were after. I think it did give a better heat distribution than the particular form of parabola shown in the English patent. The patent mentions that you can get divergent or parallel or convergent rays. It gives wide instructions there. You could readily make a wider one under the patent. There are no directions in the patent as to what kind of parabola you would make, whether deep, flat or more elongated, there are no directions in there as to what kind of parabola you can make. The only suggestion about it at all would be the most natural one to make in the first instance, although you were not limited to that. You would make one of the shape more nearly corresponding to the cone shown there, you have a wide choice under the language there. That choice is left to the party who wants to make a parabolic reflector in accordance with that suggestion. It is stated in there that the interior may be smooth; that would necessarily apply as well to the parabola as to the cone. Of course the man who designed that tended rather towards the artistic because he showed the fluted cone; all those British things are rather more ornamental.

On redirect examination the witness said:

"I do not know the composition of the Excello

wire to which my attention has been called. I am quite sure it has some nickle and some chromium in it, but the exact composition of it I do not know at this time." [126]

Defendant then offered in evidence certified copy of the file-wrapper and contents of the patent in suit, and the same was marked Defendant's Exhibit "O."

J. H. MILLER,
Atty. for Plff.

[Endorsed]: Filed Dec. 17, 1920. W. B. Maling,
Clerk. By J. A. Schaertzer, Deputy Clerk. [127]

In the Southern Division of the United States District Court for the Northern District of California, Second Division.

No. 493.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

**Plaintiff's Petition for an Order Allowing Appeal
from Order and Decree of October 4, 1920,
and from the Final Decree of November 1, 1920.**

Plaintiff in the above-entitled case feeling itself aggrieved by the order and decree heretofore made

and entered in the minutes of the Court on October 4, 1920, whereby it was ordered that the bill of complaint be dismissed, and that a decree be signed, filed and entered accordingly, and feeling itself aggrieved by the final decree heretofore made and entered in the case on November 1, 1920, wherein and whereby it was ordered, adjudged and decreed that the plaintiff's bill of complaint be dismissed with costs to the defendant, which said decree was signed by Hon. Robert S. Bean, United States District Judge.

Comes now into court by its counsel and prays the Court for an order allowing it to prosecute an appeal from the said order and decree of October 4, 1920, and from said [128] final decree of November 1, 1920, to the Honorable United States Court of Appeals for the Ninth Circuit under and pursuant to the laws of the United States in that behalf made and provided, and that an order be made fixing the amount of security of costs and damages which said plaintiff shall give and furnish on said appeal, and that upon said security being given, all further proceedings in this court and the issuance of execution be suspended and stayed until the final disposition of said appeal by the said United States Circuit Court of Appeals for the Ninth Circuit.

And your petitioner will ever pray, etc.

(Sgd.) JOHN H. MILLER,

Attorney for Plaintiff.

Dated: November 17, 1920. [129]

In the Southern Division of the United States District Court for the Northern District of California, Second Division.

No. 493.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

Order Allowing Appeal of Plaintiff from Order and Decree of October 4, 1920, and from the Final Decree of November 1, 1920.

Plaintiff in the above-entitled suit having filed its petition for an order allowing an appeal from the order and decree made and entered in the minutes of the Court on October 4, 1920, and from the final decree made and entered in the case on November 1, 1920, accompanied by an assignment of errors:

NOW, THEREFORE, on motion of John H. Miller, Esq., attorney for plaintiff, it is

ORDERED that the said petition be and the same is hereby granted, and the plaintiff is hereby allowed to take an appeal to the United States Circuit Court of Appeals for the Ninth Circuit, from the order and decree made and entered on the minutes of this court on October 4, 1920, whereby it

was ordered that the bill of complaint be dismissed with costs to the defendant, and that a decree be signed, filed and entered accordingly, and also from the final decree made and entered in the above-entitled case on November 1, 1920, [130] wherein it was ordered, adjudged and decreed that the plaintiff's bill of complaint be dismissed with costs to the defendant.

And it further appearing that the plaintiff has prayed for a supersedeas and stay of execution of said decree pending said appeal.

IT IS ORDERED, ADJUDGED AND DECREED that the amount of security to be furnished by the plaintiff for damages and costs be and the same is hereby fixed at the sum of five hundred (\$500.00) dollars, and that upon the plaintiff furnishing and giving and filing with the clerk of the court the aforesaid bond, for damages and costs on appeal, in the sum of five hundred (\$500.00) dollars, conditioned as required by law, all further proceedings in this court and the issuance of execution be and the same are hereby suspended and stayed until the final determination of said appeal by the said United States Circuit Court of Appeals for the Ninth Circuit.

And it is further ORDERED, ADJUDGED AND DECREED that upon the giving of the bond aforesaid conditioned according to law; a certified transcript of the records and proceedings herein be forthwith transmitted to the said United States Circuit Court of Appeals for the Ninth Circuit.

Dated: November 17th, 1920.

(Sgd.) R. S. BEAN,
U. S. District Judge.

[Endorsed]: Filed Nov. 17, 1920. W. B. Maling,
Clerk. By J. A. Schaertzer. [131]

In the Southern Division of the District Court of
the United States, for the Northern District of
California, Second Division.

No. 493.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY,

Defendant.

**Plaintiff's Assignment of Errors on Appeal from
Order and Decree Entered in the Minutes, Octo-
ber 4, 1920, and Final Decree Made and Entered
November 1, 1920.**

Now comes plaintiff herein by its counsel and
specifies and assigns the following as the errors on
which it will rely upon its appeal to the United
States Circuit Court of Appeals for the Ninth Cir-
cuit from the order and decree made and entered in
the minutes of the court on October 4, 1920,
whereby it was ordered that the bill herein be dis-
missed with costs to defendant, and that a decree be

signed, filed and entered accordingly, and from the final decree made and entered in the above-entitled case on November 1, 1920, whereby it was ordered, adjudged and decreed that the bill of complaint be dismissed with costs to defendant to be taxed, viz.:

1. Error of the Court in making and entering the order and decree of October 4, 1920, whereby it was ordered that the bill of complaint be dismissed, and that a decree be signed, filed and entered accordingly. [132]

2. Error of the Court in making and entering its final decree of November 1, 1920, wherein and whereby it was ordered, adjudged and decreed that the plaintiff's bill of complaint be dismissed with costs to the defendant to be taxed.

3. Error of the Court in ordering, adjudging and decreeing that the plaintiff's bill of complaint be dismissed.

4. Error of the Court in ordering, adjudging and decreeing that claim 1 of the patent sued on was not infringed by the defendant.

5. Error of the Court in not holding that claim 1 of the patent in suit was good and valid in law and had been infringed upon by the defendant.

6. Error of the Court in ordering, adjudging and decreeing that the bill of complaint be dismissed as to claim 1 of the patent in suit.

7. Error of the Court in holding that the plaintiff cannot recover unless the invention disclosed by the patent in suit is generic and embodies a broad fundamental idea theretofore unknown in the art.

8. Error of the Court in holding that if the patent in suit covers only minor improvements in a known mechanism there could be no infringement.

9. Error of the Court in holding that the invention disclosed by the patent in suit is not generic and does not cover a broad fundamental idea theretofore unknown in the art.

10. Error of the Court in holding that the patent in suit by claim 1 does not cover a generic idea.

11. Error of the Court in holding that the patent in suit by claim 1 covers only minor improvements in a known mechanism.

12. Error of the Court in holding that claim 1 of [133] the patent in suit covers a combination, in which one of the elements is a broad flange arranged around the edge of the reflector.

13. Error of the Court in holding that the broad flange arranged around the edge of the plaintiff's reflector is not found in the defendant's heater at all.

14. Error of the Court in holding that the equivalent of the broad flange arranged around the edge of the plaintiff's heater is not found in the defendant's heater.

15. Error of the Court in holding that the turned-over edge of the defendant's reflector is not the mechanical equivalent of the annular member extending outwardly from the margin of the reflector in plaintiff's device referred to and so specified in claim 1 of the patent in suit.

16. Error of the Court in holding that the primary purpose of the turned-over edge of the de-

defendant's reflector does not perform the function for which the annular member extending outwardly from the margin of the plaintiff's reflector was designed.

17. Error of the Court in holding that if the turned-over edge of defendant's reflector performs the function for which the annular member extending outwardly from the margin of the plaintiff's reflector was designed, that such function was merely incidental.

18. Error of the Court in holding that the primary purpose of the turned over edge of the defendant's reflector is to give to the reflector strength and a finished appearance.

19. Error of the Court in holding that the Shoenberg patent, No. 1,109,551 of September 1, 1914, anticipates the patent in suit in so far as concerns the general principle or generic idea.

20. Error of the Court in holding that the difference [134] in contour of the reflector of the Shoenberg patent and the patent in suit was not of the essence.

21. Error of the Court in holding that the Shoenberg patent above referred to embodies the beam type principle of heater.

22. Error of the Court in holding that said Shoenberg patent discloses the purpose or principles of the generic idea of the patent in suit.

23. Error of the Court in holding that the difference between the device shown in the said Shoenberg patent and the patent in suit was a difference in degree only.

24. Error of the Court in holding that the principle of the patent in suit was disclosed in the English patent to Kempton, No. 12,320.

25. Error of the Court in holding that the said principle is suggested in the United States patent No. 881,017 of March 3, 1908, to Morse.

26. Error of the Court in holding that the principle of the patent in suit is completely disclosed in the English patent of the Simplex heater No. 19,871 of September 4, 1914.

27. Error of the Court in holding that the device of the said Simplex English patent was manufactured before the application for the patent in suit was filed.

28. Error of the Court in holding that the United States patent No. 1,120,003 of December 8, 1914, to Warner, was or is material.

29. Error of the court in holding that United States patent No. 1,194,168 of August 8, 1916, to Geiger was material.

30. Error of the Court in holding that the English patent No. 102,070 of November 16, 1916, to Taylor was material.

31. Error of the Court in holding that the "Fer-ranti Fires" devices, stated to have been generally advertised as early as 1911 was material. [135]

32. Error of the Court in entering its order and decree in the minutes on October 4, 1920, through and by Honorable Maurice T. Dooling, the District Judge who was then presiding, whereas the case was tried by and before Frank S. Dietrich, U. S. Dis-

trict Judge of Idaho, and the written opinion in the case was rendered by him.

33. Error of the Court in making and entering its order and decree of October 4, 1920, through and by Honorable Maurice T. Dooling, District Judge presiding, whereas the case was tried by and before Honorable Frank S. Dietrich, U. S. District Judge of Idaho, who had been specially designated to act as a trial judge for the Northern District of California only for the months of August and September, 1920, and such authority and commission expired on the last day of September, 1920.

34. Error of the Court in making and entering its decree of November 1, 1920, through Robert S. Bean, District Judge, whereas the case was tried by and before Honorable Frank S. Dietrich, United States Judge of Idaho, who had been designated and appointed to hold United States District Court for the Northern District of California during the months of August and September, 1920, only, and his authority and commission expired on the last day of September, 1920.

NOW, THEREFORE, in order that the foregoing assignments of error may be and appear of record, the plaintiff presents the same to the Court and prays that the same may be filed and such disposition be made thereof as is in accordance with the laws of the United States in that behalf made and provided, and prays that said final decree be reversed, and that the District Court of the United States for the Northern District of California, Second Division, be directed to enter an interlocutory

decree in favor of the plaintiff and against the defendant [136] in the usual manner and form, adjudging and decreeing the validity and infringement of claim 1 of the patent in suit, and enjoining any further infringement thereof, and referring the case to a Master in Chancery for an accounting of damages and profits. All of which we respectfully submit.

Dated: November 17, 1920.

(Sgd.) JOHN H. MILLER,
Attorney for Plaintiff.

[Endorsed]: Filed Nov. 17, 1920. W. B. Maling,
Clerk. By J. A. Schaertzer, Deputy Clerk. [137]

In the Southern Division of the United States District Court for the Northern District of California, Second Division.

No. 493.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,
Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,
Defendant.

Bond on Appeal.

KNOW ALL MEN BY THESE PRESENTS:
That American Surety Company of New York, a corporation organized and existing under and by

virtue of the laws of the State of New York and duly licensed to transact a suretyship business in the State of California, is held and firmly bound in the penal sum of Five Hundred (\$500.00) Dollars to be paid to the Westinghouse Electric & Manufacturing Company, defendant, its successors or assigns, for which payment, well and truly to be made, the American Surety Company of New York binds itself, its successors and assigns firmly by these presents.

The condition of the foregoing obligation is such that,

WHEREAS the Majestic Electric Development Company, plaintiff in the above-entitled suit, has taken or is about to take an appeal to the United States Circuit Court of Appeals for the Ninth Circuit to reverse the order and decree made and entered on October 4, 1920, and the final decree made and entered on November 1, 1920, by the District Court of the United States for the Northern District of California, Second Division, in [138] the above-entitled suit, whereby plaintiff's bill of complaint was dismissed with costs to defendant.

NOW, THEREFORE, the conditions of the foregoing obligation is such that if the said Majestic Electric Development Company shall prosecute its said appeal to effect and shall answer all damages and costs, if it shall fail to make its plea good, then this obligation shall become void; otherwise to remain in full force and effect.

168 *Majestic Electric Development Company vs.*

Dated at San Francisco, California, November 17th, 1920.

AMERICAN SURETY COMPANY OF
NEW YORK.

By D. ELMER DYER,
Resident Vice-president.

[Seal]

Attest: E. C. MILLER,
Resident Assistant Secretary.

Approved Nov. 19, 1920.

R. S. BEAN,
Judge.

[Endorsed]: Filed Nov. 19, 1920. W. B. Maling,
Clerk. By J. A. Schaertzer, Deputy Clerk. [139]

In the Southern Division of the United States Dis-
trict Court for the Northern District of Cali-
fornia, Second Division.

493.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY,

Defendant.

Order Allowing Withdrawal of Original Exhibits.

Good cause appearing, on motion of John H. Miller, Esq., counsel for Majestic Electric Development Company, plaintiff in the above-entitled suit.

IT IS ORDERED that all of the original exhibits offered in evidence in the above-entitled cause may be withdrawn from the files of the above-entitled court and from the clerk thereof, and be by said clerk transmitted to the United States Circuit Court of Appeals for the Ninth Circuit, as a part of the record on appeal of the plaintiff herein to said Circuit Court of Appeals, from the order and decree made and entered in the minutes on the fourth day of October, 1920, and the final decree made and entered on the first day of November, 1920, which said original exhibits are to be returned to the files of this Court upon the determination of said appeal by the said Circuit Court of Appeals.

Dated Nov. 23d, 1920.

(Sgd.) R. S. BEAN,
U. S. District Judge.

[Endorsed]: Filed Nov. 24, 1920. Walter B. Maling, Clerk. [140]

(Title of Court and Cause.)

Praeceptum for Transcript of Record.

To the Clerk of the United States District Court:

Please prepare transcript of record on appeal from the final decree in the above-entitled suit, and incorporate therein the following, viz.:

1. Bill of complaint.
2. Final amended answer.
3. Order designating Judge Dietrich to hold court in the Northern District of California.

170 *Majestic Electric Development Company vs.*

4. Opinion of Judge Dietrich.
5. Minute order of October 4, 1920.
6. Final decree of November 1, 1920.
7. Statement of evidence.
8. Petition for order allowing appeal.
9. Assignment of errors.
10. Order allowing appeal.
11. Order allowing withdrawal of exhibits.
12. Bond on appeal.
13. Citation.

JOHN H. MILLER,
Attorney for Plaintiff.

Dated November 23d, 1920.

Service of the within praecipe for transcript on appeal admitted this —— day of November, A. D. 1920.

D. L. LEVY,
W. SHELTON,
Attorneys for Defendant.

[Endorsed]: Filed Nov. 23, 1920. W. B. Maling,
Clerk. By J. A. Schaertzer, Deputy Clerk. [141]

In the Southern Division of the United States District Court, in and for the Northern District of California, Second Division.

No. 493—EQUITY.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

Certificate of Clerk U. S. District Court to Transcript of Record.

I, Walter B. Maling, Clerk of the District Court of the United States, in and for the Northern District of California, do hereby certify the foregoing one hundred forty-one (141) pages, numbered from 1 to 141, inclusive, to be full, true and correct copies of the records and proceedings as enumerated in the praecipe for transcript of record, as the same remain on file and of record in the above-entitled cause, and that the same constitute the record on appeal to the United States Circuit Court of Appeals for the Ninth Circuit.

I further certify that the cost of the foregoing transcript of record is \$61.25; that said amount was paid by John H. Miller, Esq., attorney for plaintiff; and that the original citation issued herein is hereunto annexed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said District Court this 29th day of December, A. D. 1920.

[Seal] WALTER B. MALING,
Clerk United States District Court for the North-
ern District of California. [142]

Citation.

UNITED STATES OF AMERICA,—ss.

The President of the United States, to Westinghouse Electric & Manufacturing Company,
GREETING:

You are hereby cited and admonished to be and appear at a United States Circuit Court of Appeals for the Ninth Circuit, to be holden at the city of San Francisco, in the State of California, within thirty days from the date hereof, pursuant to an order allowing an appeal, of record in the clerk's office of the United States District Court for the Northern District of California, Second Division, wherein Majestic Electric Development Company, is appellant, and you are appellee, to show cause, if any there be, why the decree rendered against the said appellant, as in the said order allowing appeal mentioned, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

WITNESS, the Honorable ROBERT S. BEAN,
United States District Judge for the District of Oregon, designated to hold and holding the District

Court of the United States, for the Northern District of California, this 19th day of November, A. D. 1920.

R. S. BEAN,
United States District Judge. [143]

Received a copy of the within Citation on Appeal this 23d day of November, 1920.

D. L. LEVY,
W. SHELTON,
Attorneys for Defendant.

[Endorsed]: No. 493. United States District Court for the Northern District of California. Majestic Electric Development Co., Appellant, vs. Westinghouse Electric & Mfg. Company. Citation on Appeal. Filed Nov. 23, 1920. W. B. Maling, Clerk. By J. A. Schaertzer, Deputy Clerk.

[Endorsed]: No. 3617. United States Circuit Court of Appeals for the Ninth Circuit. Majestic Electric Development Company, a Corporation, Appellant, vs. Westinghouse Electric & Manufacturing Company, a Corporation, Appellee. Transcript of Record. Upon Appeal from the Southern Division of the United States District Court for the Northern District of California, Second Division.

Filed December 29, 1920.

F. D. MONCKTON,
Clerk of the United States Circuit Court of Appeals
for the Ninth Circuit.

By Paul P. O'Brien,
Deputy Clerk.

United States Circuit Court of Appeals for the
Ninth Circuit.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Appellant,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY,

Appellee.

**Order Enlarging Time to and Including January
20, 1921, to File Record and Docket Cause.**

Good cause being shown, it is hereby ordered that the appellant in the above-entitled suit may have to and including the 20th day of January, 1921, within which to file the record on appeal and to docket the cause in the United States Circuit Court of Appeals for the Ninth Circuit.

Dated December 20, 1920.

W. H. HUNT,
Circuit Judge.

[Endorsed]: No. 3617. United States Circuit Court of Appeals for the Ninth Circuit. Order Under Subdivision 1 of Rule 16 Enlarging Time to and Including Jan. 20, 1921, to File Record and Docket Cause. Filed Dec. 20, 1920. F. D. Monekton, Clerk. Refiled Dec. 29, 1920. F. D. Monekton, Clerk.

In the United States Circuit Court of Appeals for
the Ninth Circuit.

No. 3617.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY, a Corporation,

Appellant,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY, a Corporation,
Appellee.

Stipulation as to Transcript of Record on Appeal.

IT IS HEREBY STIPULATED that the following exhibits on file in this court pursuant to an order of the District Court dated November 23, 1920, and filed November 24, 1920, and set forth at length on pages 168, 169 of the transcript of the record herein, were introduced in evidence at the trial of this cause in behalf of defendant and appellee:

Defendant's Exhibit 11, being page 163 of a printed publication entitled "Supplement to the Electrician," published at London, England, dated August 16, 1912.

Defendant's Exhibit 12, being an advertising insert, page 2 of a printed publication, "The Electrician," dated September 20, 1912, published in London, England.

Defendant's Exhibit 13, being page 1 of the printed publication "Prometheus," dated October 3, 1906, published at Berlin, Germany.

Defendant's Exhibit 14, being page 11 of a printed publication entitled "Prometheus," dated October 3, 1906, published in Berlin, Germany.

Defendant's Exhibit 15, being page 14 of a printed publication entitled "Electrical Record," dated May 1907, published at New York City.

Defendant's Exhibit 16, being page 19 of a printed publication entitled "Electrical Record," dated May, 1915, published at New York City.

It is further stipulated that the following matter may be deemed to be inserted at page 76 of the transcript of the record herein and between the third and second lines from the end thereof, to wit, —if the Court consents thereto:

Defendant produced and offered in evidence page 163 of a printed publication, entitled "Supplement to the Electrician," published at London, England, dated August 16, 1912, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 11," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence an advertising insert, page 2, of a printed publication entitled "The Electrician," dated September 20, 1912, published in London, England, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof substituted therefor, which said photo-

graphic copy was offered in evidence and marked "Defendant's Exhibit 12," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 1 of a printed publication entitled "Prometheus," dated October 3, 1906, published at Berlin, Germany, in the German language, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was offered in evidence and was marked "Defendant's Exhibit 13," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 11 of a printed publication, entitled "Prometheus," dated October 3, 1906, published at Berlin, Germany, in the German language, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy substituted therefor, which said photographic copy was offered in evidence and marked "Defendant's Exhibit 14," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 14 of a printed publication entitled "Electrical Record," dated May, 1907, published at New York City, New York, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof be sub-

stituted therefor, which said photographic copy was offered in evidence and marked "Defendant's Exhibit 15," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 19 of a printed publication entitled "Electrical Record," dated May, 1915, published at New York City, N. Y., and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was offered in evidence and marked "Defendant's Exhibit 16," the same being hereby referred to and by such reference made a part hereof.

Dated: January 25, 1921.

JOHN H. MILLER,
Solicitor for Appellant.

DAVID L. LEVY,
W. G. CARR,

W. SHELTON,
Solicitors for Appellee.

In signing the above stipulation I desire to say that the original statement of the evidence as filed by me in this court is in accordance with the reporter's transcript of the evidence in the lower court in so far as relates to the above-mentioned six exhibits, and it does not appear from said reporter's transcript that said six exhibits were offered in evidence in this case, and I prepared the statement of evidence on appeal in accordance therewith and the same was stipulated as correct by appellee's attorneys. Counsel for appellee now

assert that they actually did put in evidence at the trial the said six omitted exhibits, and it is solely upon that assertion and at their request and for their accommodation that I have signed the above stipulation.

JOHN H. MILLER.

It is so ordered by the Court.

WM. H. HUNT,
Circuit Judge.

[Endorsed]: No. 3617. In the United States Circuit Court of Appeals for the Ninth Circuit. Majestic Electric Development Company, a Corporation, Appellant, vs. Westinghouse Electric & Manufacturing Company, a Corporation, Appellee. Stipulation as to Transcript of Record on Appeal. Filed Jan. 26, 1921. F. D. Monckton, Clerk. By Paul P. O'Brien, Deputy Clerk.

No. 3617

IN THE
United States Circuit Court of Appeals
FOR THE NINTH CIRCUIT.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,
Plaintiff and Appellant,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING
COMPANY,
Defendant and Appellee.

OPENING BRIEF OF APPELLANT

JOHN H. MILLER,
Attorney for Appellant.

Filed this.....day of....., A. D. 1921.

F. D. MONCKTON, Clerk,

By....., Deputy Clerk.

The James H. Barry Co. San Francisco

FILED

FEB 21 1921

F. D. MONCKTON.

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IN THE
United States Circuit Court of Appeals
FOR THE
NINTH CIRCUIT

MAJESTIC ELECTRIC DEVELOP- MENT COMPANY, <i>Plaintiff and Appellant,</i>	}	No. 3617
vs.		
WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, <i>Defendant and Appellee.</i>	}	

OPENING BRIEF OF APPELLANT

STATEMENT OF FACTS

This is an appeal from a final decree made and entered on November 1, 1920, by the District Court of the United States for the Northern District of California, dismissing the plaintiff's bill of complaint (Rec., 33-4). The suit was brought by the appellant, Majestic Electric Development Company, hereinafter called the plaintiff, against the Westinghouse Electric & Manufacturing Company, hereinafter called the defendant, for infringement of letters patent, No.

1,245,084, of October 30, 1917, issued to Edmund N. Brown, assignor to Majestic Electric Development Company, for an electric heater.

The case was tried by the Honorable Frank S. Dietrich, Judge of the United States District Court for Idaho, sitting in the place and stead of Judge Van Fleet, by virtue of a designation signed by the Senior Circuit Judge authorizing Judge Dietrich to hold Court in the Northern District of California for the months of August and September, 1920 (Rec., 16). The trial terminated on September 1, 1920, and thereafter Judge Dietrich returned to Idaho without having rendered a decision. Afterwards he wrote an opinion, which was sent to San Francisco and filed on October 4, 1920 (Rec., 33). On the same day the District Court for the Northern District of California, Hon. Maurice T. Dooling presiding, entered an order in the minutes of the Court to the effect that a decree be signed, filed, and entered in accordance with Judge Dietrich's opinion (Rec., 17). Afterwards, on November 1, 1920, the District Court for the Northern District of California, by Hon. Robert S. Bean, District Judge of Oregon presiding, made and entered the decree complained of, in and by which it was ordered that the bill of complaint be dismissed (Rec., 33-4). Plaintiff appeals from that decree.

The bill of complaint is in the usual form. The answer puts in issue all the allegations of the bill and pleads invalidity of the patent in suit by reason

of prior patents and printed publications, the prior art, prior use by certain named persons, and also the additional statement that Alfred H. Huntington of Riverside, California, was the original and first inventor of the device in question, and that Edmund N. Brown surreptitiously and unjustly obtained the patent while Huntington was using reasonable diligence in adapting and perfecting the same.

No evidence was produced by defendant in support of this last-named defense, and hence it may be dismissed from consideration. As to the other defenses, defendant introduced certain prior patents and publications, the same being referred to and identified in the statement of the evidence under equity rule 75, which was prepared and filed in the case and appears between pages 36 and 156 of the record.

The assignment of errors appears between pages 160 and 165 of the record. They are 34 in number.

THE QUESTION FOR DECISION INVOLVED ON THIS APPEAL

The lower Court did not hold that the patent was invalid, but merely that it was not infringed. We take this as a holding, at least inferentially, that the patent is valid, and hence the sole question for determination by this court is that of infringement.

This involves the proper construction to be given to the plaintiff's claim. The lower court held that the invention was not of a "generic" character introducing a "broad fundamental idea theretofore unknown in the art," but that it covered only "minor

improvements in a known mechanism," and, as defendant's mechanism differed in form from that of the plaintiff, there was no infringement (Rec., 22).

This does not correctly state our position. Our position is two-fold, viz.:

1. While the invention is not of such character as is generally termed primary or generic, introducing into the art a wholly new principle not before known, nevertheless it is such a radical departure from pre-existent things and such an advance over the prior art as to be entitled to a broad and liberal interpretation. In fine, it is in that class of inventions styled primary improvements.

2. But even if the invention is not of the breadth above indicated, and is limited to details of construction, nevertheless it is entitled to the doctrine of equivalents, and by virtue thereof defendant's structure must be held to be an infringement.

Later we shall endeavor to show wherein the lower court erred in its construction of the patent. At the present time we are merely stating our position so that your Honors can have it in mind as the argument progresses.

THE PATENT IN SUIT

This patent is No. 1,245,084, dated October 30, 1917, issued to Edmund N. Brown, assignor to Majestic Electric Development Company. The invention is entitled "An Electric Heater." On the opposite page will be found a reproduction of the drawings of the patent.

E. N. BROWN.
ELECTRIC HEATER.
APPLICATION FILED JULY 10, 1917.

1,245,084.

Patented Oct. 30, 1917.

Fig. 1.

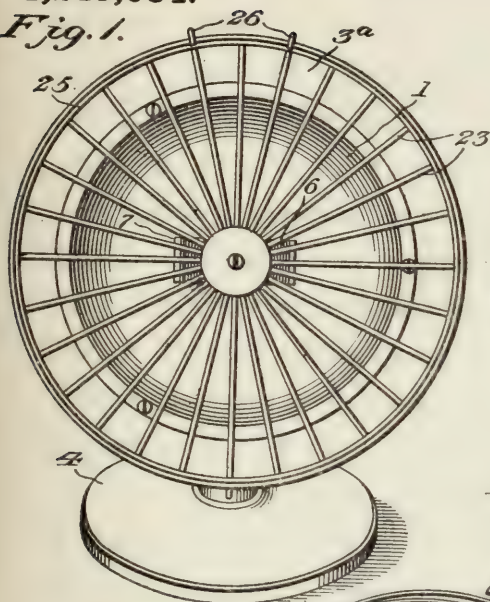


Fig. 3.

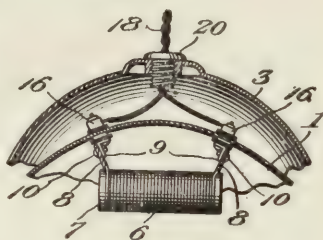


Fig. 6.

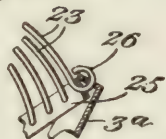


Fig. 2.

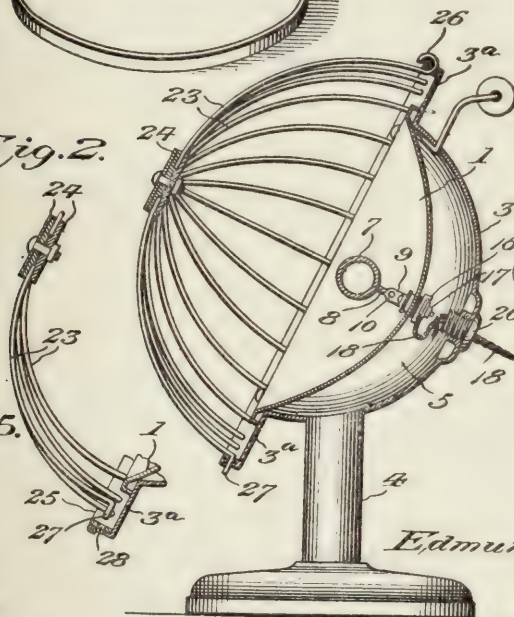


Fig. 4.

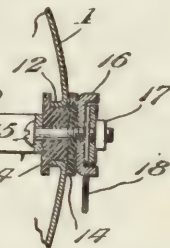
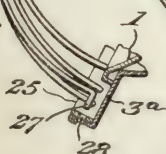


Fig. 5.



Edmund N. Brown
Inventor

Witness

Philip E. Barus

By

Eugene C. Brown
Attorney

The patent shows "a concavo-convex reflector," identified in the drawings by the numeral 1. Its inner surface is highly polished. An outer casing, identified by the numeral 3, is attached to the convex back of this reflector, thereby producing an intermediate air space for cooling purposes, but this last-named feature of the device is not in issue here, and, consequently, may be dismissed from further consideration.¹ Within the concave of the reflector 1, and preferably at the focus thereof, a heating unit is arranged, which consists of a resistance wire wound around a core or bobbin and attached to a source of electric energy, so that when the wire is heated to incandescence, its heat rays² will impinge against the surface of the reflector, and in turn be reflected therefrom in substantially parallel lines, and in the form of a "beam." Hence, these heaters are known to the trade as beam heaters (Dep. of Deft's witness Beam, Rec., 89).

A protective cage, made of wires and of arched form, is placed over the front of the reflector for protecting purposes.

¹ This intermediate air space feature is covered by claim 3, not sued on.

² We use the term heat rays merely as a concession to popular parlance. Scientifically it is inaccurate.

A marginal annular flange, designated in the drawings as 3a, extends around the edge of the reflector in order to protect the outer exposed edge of the reflector from being heated. The device is mounted on an upright standard fastened in a substantial circular base, and a handle is provided at the top for moving the heater from place to place.

There are four claims in the patent, but on this appeal we shall rely only upon claim 1. In the lower court we contended that claims 2 and 4 were also infringed, but the court held against us in that respect, and we shall not here challenge that holding.

Claim 3 relates to the supplement back 3 providing an air space between it and the reflector 1. The defendant's heater has not that feature and it was not charged to infringe upon this claim.

This leaves for consideration on this appeal only claim 1. The lower court held that it was not infringed. Was that decision correct? We claim that it was not, and the only question for this court to consider is the infringement of claim 1 of this patent. Said claim reads as follows:

"1. An electric heater, comprising a concavo-convex reflector, a heating unit supported at substantially the focus of said reflector, an annular member extending outwardly from the margin of said reflector, and a protective cage having guard wires arched between opposite sides of said annular member."

This is a combination claim, and its elements sever-

ally stated are as follows: (1) A concavo-convex reflector; (2) a heating unit supported at substantially the focus of the reflector; (3) an annular member extending outwardly from the margin of the reflector; (4) a protective cage having guard wires arched between opposite sides of said annular member, that is to say, arched over the front of the reflector.

It is to be observed that these elements are individually characterized by comprehensive language. The only limitation on the reflector is that it shall be concavo-convex. The heating unit must be supported at substantially the focus of said reflector, but otherwise it is not limited, that is to say, it may be supported transversely of the axis, or longitudinally of the axis, or in any other manner, so long as it is at substantially the focus.

The annular member extending outwardly from the margin of the reflector is unlimited as to form. It may be flat or round, or any other shape, so long as it is annular, and its only limitation is that it must extend outwardly from the margin of said reflector.

The protective cage is limited only by the requirements that it shall be composed of guard wires *arched* over the front of the reflector.

These heaters are generally known to the trade as "beam heaters." The defendant's expert witness, whose name by a curious coincidence is Beam, when testifying regarding heaters of both plaintiff and defendant, at the bottom of page 88 and top of page 89 of the record, says:

"The object of both heaters is to project the heat from the reflector out into the room in the shape of a beam, as nearly solid as possible, without having those heat waves scatter around in other portions of the room, and for that reason they are generally designated by the trade as beam heaters."

So much for the mechanical features of the device. We now address ourselves to its essential principle and mode of operation.

FUNDAMENTAL PRINCIPLE OF THE INVENTION

The Brown heater in suit involves a scientific principle, which consists, broadly speaking, in the utilization of radiant energy in a certain specific manner. When the electric coil (the heater element) receives its appropriate charge of electric current, it is thrown into a state of molecular vibration. A portion of these vibrations are absorbed by the coil and manifest themselves in the form of heat, producing incandescence of the coil. But the remainder of these vibrations set up similar vibrations in the surrounding medium (the ether) in the shape of spherical waves of radiant energy, and these waves of radiant energy impinge upon the surface of the reflector at a very high rate of speed (approximately 186,000 miles per second³). When this radiant energy strikes the surface of the reflector, a small portion thereof is absorbed by the reflector itself resulting in a heat-

³ This is the velocity of light; but light and heat are both manifestations of the same character of energy differing only in frequency of molecular vibration. In respect of rate of travel they are similar.

ing of the reflector, while the remainder is reflected from the surface at the same angle at which it strikes the reflector. In technical language the angle of incidence is equal to the angle of reflection as in the case of light. Now, if the reflector were of flat area, these rays of radiant energy would be reflected indiscriminately throughout the surrounding space in all directions. In fine, they would scatter in divergent lines. If, however, the surface of the reflector, instead of being flat, is concave, a different result will follow; and if that surface is a true parabola, then the radiant energy waves would be reflected therefrom in straight lines, producing a cylindrical shaft or beam. This is due to the mathematical law applicable to a parabola. That law says that in a parabola the distance from the focus to any point on the curve is exactly equal to the distance from that point to a fixed line in the rear of the parabola called a directrix. This does not convey a very clear idea to the popular mind, but in substance it simply means, when applied to the matter in hand, that radiant energy waves emanating from the focus of a parabola will be reflected in parallel lines, and as the circumference of the mouth of the parabola is circular, the result must necessarily be a cylindrical shaft or beam of radiant energy circular in cross-section and having a diameter approximately the same as the diameter of the mouth of the parabola.

The parabolic reflector is therefore the most perfect form for the projection of radiant energy. If,

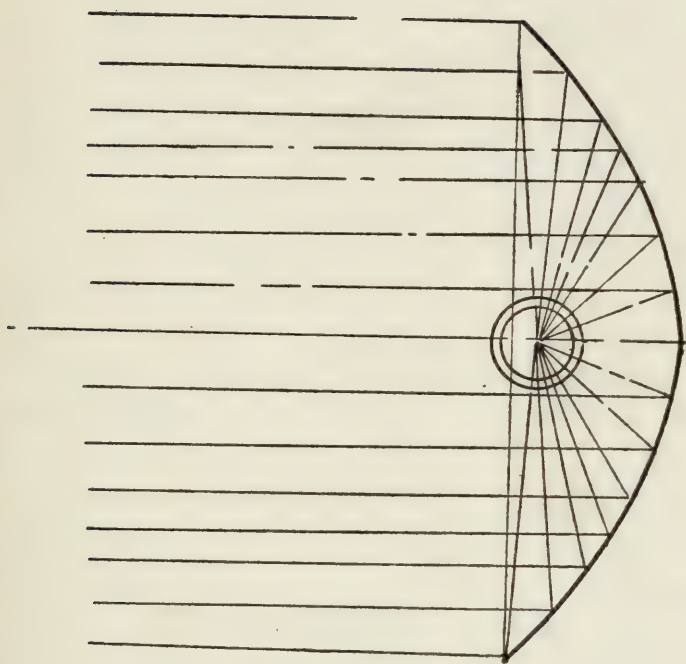
however, instead of having a perfect parabolic reflector, we have one approximating thereto, such as the segment of a circle, or, popularly speaking, a hemispherical reflector, then practically the same result will follow as in the case of a parabolic reflector. The difference will be manifested only in a slightly less perfect form of the shaft or beam. This difference, however, is so slight as not to be appreciable from a utilitarian point of view. Hence, we may say in a popular sense that the results in the two cases are the same, at least this is true in the sense of the patent law, which looks upon substantiality rather than upon minute variance.

Now, when this shaft or beam of radiant energy emanating from the reflector impinges upon any object which may be in its path, it produces in that object a corresponding state of molecular activity and the sensation of heat follows. At the same time the surrounding space outside of the shaft or beam is not affected. The action of the shaft or beam is localized upon the object within its path, because that is the only object which it strikes. Consequently, all portions of the surrounding space outside of the line of travel of the shaft or beam is unheated, and only the object within its path is heated. This can be demonstrated by standing within the line of travel of the shaft or beam, thereby experiencing the sensation of heat, and then by moving outside of its line of travel you will experience no sensation of heat. In other words, the radiant energy emanating from

a Brown heater is not utilized for heating an entire room, as in the case of a stove or a steam radiator, but is utilized only for heating a specific object within the line of travel of the shaft or beam. This is the fundamental principle of the Brown heater from the scientific point of view.

On the adjoining page is a cut illustrating the principle of a Brown heater. It shows the heat rays travelling in parallel lines and producing a "beam."

We do not claim that Brown was the first to utilize radiant energy reflected from a reflecting surface for heating objects. That generic principle was known prior to the Brown patent, as we shall hereafter point out. What we do claim is that Brown was the first in the art to devise a practical form of electric heater which by reflection produces a perfect shaft or beam of radiant energy for heating any object coming within its line of travel. Efforts in that line had been made by others, but the devices produced by them did not solve the problem of producing a substantially perfect shaft or beam of reflected radiant energy. The problem to be solved was the production of a substantially perfect shaft or beam of radiant energy to be directed against a particular object for heating that object. Prior inventors essayed to solve that problem and produced devices of many different kinds, but none of them solved the problem or produced what was desired. Brown did solve the problem, and to that extent his patent is entitled to a liberal construction.



BROWN HEATER

The lower court held against us on this point by reason of the prior art, and that ruling is assigned as error. This necessitates a review of the prior art.

THE PRIOR ART

The prior art in this case is represented by certain patents, (one English and five United States patents), certain printed publications consisting of electrical journals, and certain devices manufactured by the plaintiff at San Francisco prior to the date of the patent in suit. We herewith catalogue these devices in their chronological order, viz:

1. U. S. patent of Porter 684,459, of October 15, 1901
(Defendant's Exhibit N).
2. U. S. Patent to Morse, 881017 of March 3, 1908
(Defendant's Exhibit F).
3. U. S. Patent to Shoenberg, 1,109,551 of Sept. 1, 1914
(Defendant's Exhibit I).
4. English patent to Simplex Conduits, Ltd., 19,971 of September 4, 1914
(Not marked with any exhibit mark).
5. U. S. Patent to Warner, 1120003 of December 8, 1914
(Defendant's Exhibit H).
6. Early Majestic heaters of 1915
(Defendant's Exhibits A, B, C and D and Plaintiff Exhibit 6).

7. U. S. Patent to Geiger, 1194168 of August 8, 1916

(Defendant's Exhibit G).

PRIOR PUBLICATIONS

The Electrical Times and Electrician, published at London at various times from January 1912 to August 1916, showing devices known as "The Ferranti Fires," "Calor Electric Fire," "Redglow Fire," "Plexsim Fire," and the "D. G. Bowl Electric Fire."

Of these it may be remarked that the "D. G. Bowl Electric Fire," represented by Defendant's Exhibit 10, was not published until August 31, 1916, and as the date of the Brown invention was at least as early as April 5, 1916, this publication must be ignored as being too late.

In regard to the publication of "Plexsim Fire," represented by Defendant's Exhibits 8 and 9, this is the same device shown in the prior English patent to Simplex Conduits, Ltd., defendant's exhibit above referred to as unmarked, and as the details are more clearly shown in the patent itself, we shall confine our remarks thereto.

In regard to the other named devices, "Ferranti," "Calor" and "Redglow," represented by Defendant's Exhibits 1, 2, 4, 5, 6 and 7, they are all of substantially the same character, and we shall refer to them hereafter under the general term "Ferranti Fires," as did the lower court.

It may also be remarked that defendant put in

evidence a publication entitled "Prometheus," Defendant's Exhibits 13 and 14, but that publication is in German, and as no translation of it was put in evidence in this case, we apprehend that the court will not concern itself regarding its contents. And furthermore, the picture in said exhibit 14 appears to be a picture of a telephone with some kind of a sound collecting device of a bowl shape and it does not appear to be an electric heater at all. Under these circumstances we shall pay no further attention to it.

Defendant also put in evidence two publications, exhibits 3 and 15, showing the well-known Benjamin Electric light bulbs enclosed within a reflector; but they are not applicable to any issue herein and we shall pay no further attention to them, pursuing the same course as did the lower court.

In this connection we also desire to state that the learned Judge of the lower court discussed and treated as a part of the prior art an English patent to Kempton, No. 12320 (Rec., 26), and an English patent to Taylor, No. 102070, said to be dated November 16, 1916 (Rec., 27). In this behalf we desire to point out that neither of these English patents was put in evidence in this case and neither of them appears in the record here. There was no warrant on the part of the lower court in referring to those patents or taking them into account when construing plaintiff's patent. We have catalogued above all of the prior art as produced in evidence in this case and

forming a part of this record on appeal. It is upon such record and such record alone that this court must decide the case.

We now address ourselves to the prior devices *seriatim*.

PORTER PATENT, NO. 684,459, OF OCTOBER 15, 1901
(Defendant's Exhibit N.)

While this patent is entitled an "Electric Heater," the specification states that it belongs to that class of electric heaters known as "electric fan heaters." The device is an electric fan, and is provided with a series of angularly disposed blades which are caused to revolve at high velocity as in the case of an ordinary electric fan. These fan blades are made of carbon and connected with a source of electricity whereby they become highly heated, so that we merely have an electric fan provided with hot blades. These blades act to heat the surrounding air, and as they revolve with great velocity, they throw out into the room large volumes of hot air; that is to say, instead of throwing out cold air for cooling a room as in the case of an ordinary fan, they throw out hot air for the purpose of heating a room, and this hot air is not thrown out in the shape of a beam, but indiscriminately in all directions. The specification says (p. 1, lines 13 et seq.):

"The object of my invention is to electrically heat the blades of a fan without adding thereto or mounting thereon any resistance material, the blade being it-

self heated directly by a current passing through it."

This does not involve the principle of heating by radiant energy, and is wholly different in principle, construction, and mode of operation from the Brown heater.

And still further, it does not contain all the elements of the Brown combination. It has no concavo-convex reflector or a reflector of any kind. It has no heating unit supported at substantially the focus of the reflector. Why it was put in evidence passes our comprehension. It has no relevancy whatever, at least no more relevancy than an ordinary electric fan.

MORSE PATENT, 881017, MARCH 3, 1908
(Defendant's Exhibit F.)

This device is a small hand implement used by physicians for therapeutical purposes. It consists of an ordinary electric light bulb extending transversely into what the specification calls "a shell or hemisphere," provided on the edge with a soft pad where it comes in contact with the human body. The specification does not state of what material this shell or hemisphere is made. Immediately in front of the light bulb and across the shell is arranged "a screen 5 of coarse wire mesh or similar construction." This is for the purpose of protecting the glass bulb from injury. In operation the physician grasps the implement by the stem or handle of the electric light bulb and places the open mouth of the shell against the affected part of the human body to be treated,

whereby the heat from the electric light will be concentrated against the affected spot. In other words it seems to be a kind of cupping implement for heating a particular spot on the human body, and this it does by confining the heat within the cup. *It is merely a hot air container.* It heats the air enclosed within the cup and retains the hot air within the cup until it performs the function of heating the body by conduction. It does not involve the principle of reflecting radiant energy either in the shape of a beam or otherwise. It has no concavo-convex reflector nor a reflector of any kind. It does not heat by reflection. It does have a concavo-convex shell, but this is not shown to be a reflector. The word reflector is not used in the specification. It would answer its purpose just as well if made of non-reflecting material. A tea-cup or tumbler or mush-bowl would answer the purpose. But however that may be, the specification does not show or mention a reflector of any kind. Neither does it have a heating unit supported at substantially the focus of the reflector, unless it may be said that an ordinary electric light bulb is a heating unit. Neither does it have a cage consisting of arched guard wires. In that connection it has only a flat wire mesh screen, and its sole function is to protect the delicate glass bulb from injury, which is a wholly different object from that accomplished by the arched guard wires of the Brown patent.

And still further, the object of this device is wholly different from that of Brown. It is a physician's

implement to be carried around by him in his pocket or medicine case until he arrives at the residence of the patient, and then he connects it to an electric cord and places the device over the affected part of the patient's body for imparting heat; whereas the Brown device is a portable heater stationed in a room and adapted to be moved about from place to place for the purpose of heating objects that come within the path of the radiant energy beam.

We submit that this Morse device does not exhibit the principle of reflecting radiant energy in the shape of a beam against an object for the purpose of heating the same. The utmost that can be said of it is that it may be considered a prophecy of what afterwards followed; but prophecies are not anticipations.

SHOENBERG PATENT, 1,109,551 OF SEPT. 1, 1914
(Defendant's Exhibit I.)

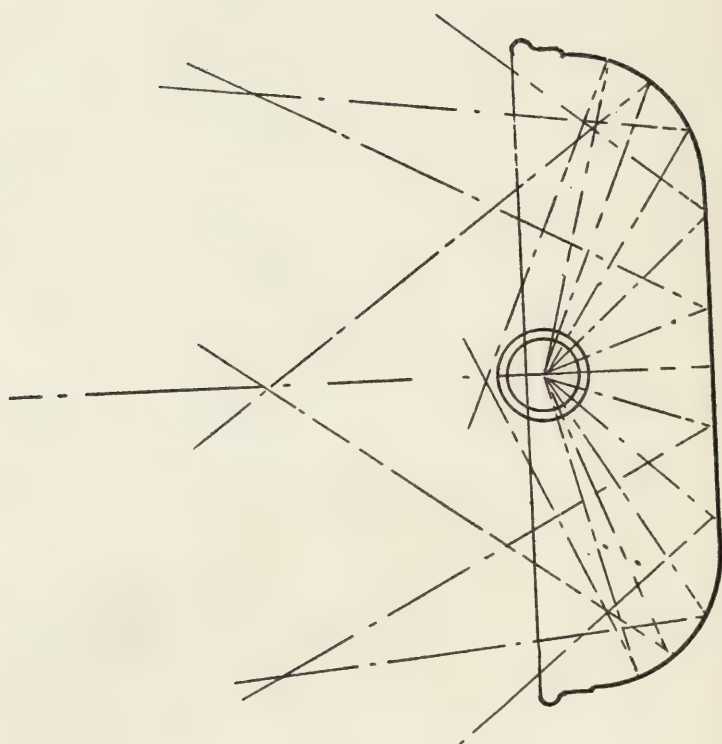
This patent shows a reflector, which is said to be "somewhat hemispherical or dome-shaped" (Spec., p. 1, l. 50). The use of this word "somewhat" is suggestive, and upon reference to the drawings, as well as to the actual device itself (Defendant's Exhibits A, B, C, and D), it will be seen that the interior of the reflector is of irregular contour. It is not hemispherical, but "somewhat" hemispherical. In one of them (represented by Plaintiff's Exhibit 6) it is like a pie plate. In others it is dish-shape. In still others bell-shaped. In all of them the interior

contour is irregular. The result which flows from this construction is apparent at a glance. The heat rays from the electric coil impinging against this irregular contour will be criss-crossed and reflected in all directions, so that when they emerge from the mouth of the reflector they will scatter in all directions and will not assume the form of a shaft or beam. Colloquially speaking, they will play tag with each other within the bowl of the reflector. This results from the fact that the reflector is not purely concave on its interior, but is of irregular contour. In discussing this matter the witness Henry says, at page 99, that the form of such reflector

"is such that the rays from different portions of the heater unit itself, as reflected from different portions of the reflectors themselves, will be very divergent in the aggregate, and in the case of any individual point or ray, it will be in criss-cross, and will, in turn, criss-cross other rays in a way to produce a very highly inefficient radiant emanation. This radiant emanation cannot be called a beam in the sense of that which is producible and is produced by the reflector of the Brown patent, with the heating element arranged at focus or about an axis about which several foci will lie."

This is clearly illustrated by the cut on adjoining page.

We say that the reflectors of the Shoenberg patent do not and cannot from the nature of their construction and mode of operation produce the radiant beam



SHOENBERG HEATER

which characterizes the Brown invention; but on the contrary they produce an irregular mass of scattered divergent beams throughout all parts of the room in front of the heater. Shoenberg may have conceived the desirability of the beam, but the device which he suggested as means for obtaining that beam was inefficient and ineffective for that purpose.

The history of the Shoenberg patent fully corroborates us. The plaintiff is the owner of the patent, and undertook to market the device covered thereby. Exemplars thereof are in evidence as Defendant's Exhibits A, B, C and D and Plaintiff's Exhibit 6, and were put on the market in the latter part of 1914 and exploited during 1915. But they proved unsuccessful and were abandoned, being entirely superseded by the invention of the patent in suit. This places the device of the Shoenberg patent in the category of unsuccessful, impractical, and abandoned experiments. It may even be conceded, for the sake of argument, that Shoenberg had a conception of the desirability of using the radiant beam principle, though that is doubtful, but conceptions are not inventions, nor do they become inventions until they are embodied in a practical form. Therefore, even if Shoenberg had the conception, he failed to embody it in a practical form, and the evidence in this case is plenary on that point.

When we come to discuss the early Majestic devices made under the Shoenberg patent we shall illustrate the above views further.

SIMPLEX ENGLISH PATENT 19971 OF SEPTEMBER 4, 1914
(Not identified by an exhibit mark.)

It appears from the face of this patent that it was "accepted" on September 4, 1914, and under the English law this means its date of issuance. Of course its date of application is immaterial, inasmuch as English patents can operate as anticipations or as a part of the prior art only from the date of their issuance.

The patent was issued to a corporation entitled "Simplex Conduits Limited," but is referred to in the evidence merely as the Simplex patent. The device itself is referred to in some of the publications as the "Plexsim Fire." The reflector is shown most clearly in Figs. 1, 2 and 3 of the Patent. It is also clearly shown in Defendant's Exhibit 9, which is a photographic copy of page 12 of a London publication entitled "Supplement to the Electrician," dated October 6, 1914. It is also shown in a model of the device itself produced by plaintiff and marked "Plaintiff's Exhibit 7" (Rec., 130).

It will be seen that this reflector is of conical shape on the exterior and is longitudinally corrugated or fluted on its interior. The specification says (p. 1, lines 36 et seq.):

"A is a conical reflector, which may be made wholly of copper or of steel or cast metal lined with copper. The inner surface is highly polished and is usually corrugated as shown at a, Fig. 3;

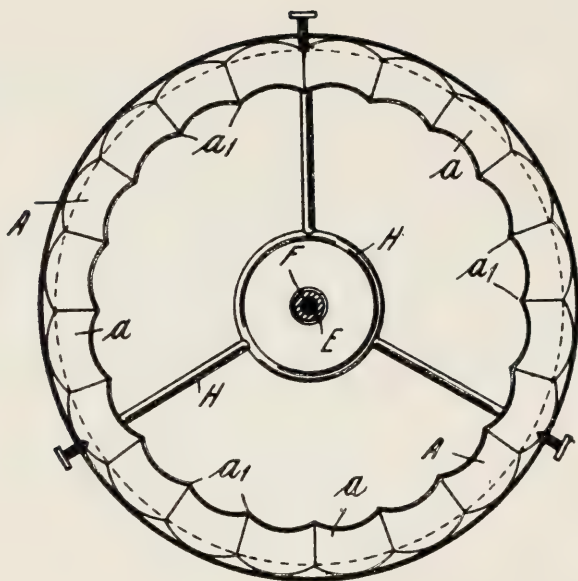
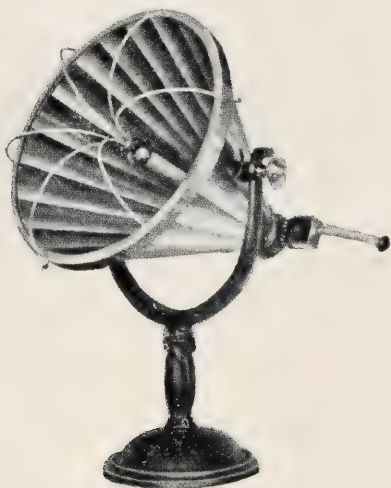


FIG. 3.

SIMPLEX ENGLISH PATENT



SIMPLEX ENGLISH HEATER
(Defendant's Exhibit 9)

the meeting edges a' of the corrugations being lines radiating from the apex of the cone."

The first cut on the adjoining page is a view in cross-section of Fig. 3 of the patent. It shows the corrugations on the interior. The lower figure is a reproduction of Defendant's Exhibit 9, where the device is styled "Plexsim Fire."

The heater element of this device is arranged longitudinally and extends from the apex of the cone centrally through the cone to its mouth. Very nearly the whole specification is taken up with a description of this element, as will be readily understood from the fact that the invention was considered to reside therein, it being said in the specification,

"the invention also relates to the mode in which the heating element is attached to the reflector and connected to the terminals."

The mouth of the reflector is said to be fitted with "a grating of coarse wire mesh or the like," and this is clearly shown in the plaintiff's model exhibit No. 7.

Now note the mode of operation of this device. When the heat rays from the coil strike against the interior of the reflector they strike into the grooves or channels formed by the corrugations on the interior. There appears to be twenty of these corrugations. These rays strike into these grooves or troughs at different angles, and as the angle of incidence is equal to the angle of reflection, they will be reflected in the form of divergent rays, thereby producing

within the cone an indiscriminate mass of divergent rays, and most of them will cross one another, which we term "criss-crossing." The rays will emerge from the cone in divergent lines, so that we will have coming from the mouth of the cone a mass of rays scattering in all directions, and not a solid shaft or beam in parallel lines. Indeed, some of the rays coming from the Simplex coil will not strike the reflector at all, but will pass outside of its edge. This, therefore is an instance where, if it be conceded that the patentee had a conception of the desirability of utilizing the radiant beam principle, yet he was not able to put it into such practical form as would carry out the conception successfully.

Referring to this device the expert witness Henry says at page 105:

"A reflector of a form corresponding with the casing or outer sheet of the reflector of this patent would not throw a beam in any sense of the word. Most of the heat rays will be reflected back and forth within the heater device itself, resulting in heating up the reflector, rather than in securing reflection. The few rays that will be thrown outwardly will be criss-crossed in all directions, doing just the contrary of a beam. The shape of the reflector, the flutes that are in it, its long heat element, and its conical lines would produce that criss-cross."

And on cross-examination, at page 110 of the record, where he was questioned regarding this Simplex heater as shown and illustrated in Defendant's

Exhibit 8, and a quotation therefrom was read, the following testimony was given:

"Q. * * * In view of that, are you still of the opinion that the patent in suit is the first disclosure of the beam type of heater?

A. I certainly am. This reflector that you have referred me to, and particularly the diagram showing the arrows indicating supposititious divergent rays, I will say that in all probability those specific rays will be thrown out from that form of reflector, and that form of heater, but that is about all of the rays that will be thrown out, a very, very small percentage of the total heat. The rays that come from every other point on that long heat-generating unit will be thrown at all kinds of angles, every possible angle. So that the actual rays which will emanate from there in an axial direction are but such a small percentage of the total that I am convinced more than ever that that form of reflector would be inefficient for the production of a beam. There is no question but that the man wanted to produce a beam, but he did not do it in this form of reflector, or in that form of heater. He would have to get up pretty close to that to feel the radiant energy. * * * It will probably generate as much heat— * * * but that heat will not be directed in the form of a beam with a sufficient efficiency to warrant calling that form of heater a beam heater. It will get hot itself, it will heat air around it locally a little bit, and heat will be extending that way; but in the Brown form of heater, the idea was and the result was that a larger percentage of that heat is gathered and thrown out in the form of a beam as radiant energy. This diagram which you have handed me is highly misleading; it is purely an advertising stunt; it is a salesman's idea of how to present a

thing to the public and get them to buy, and I have no doubt he put it over. But it is as misleading as a diagram could be as regards the rays that emanate from the inside of that form of heater in action. * * *

It shows a total misconception of the construction of a reflector and a heat unit to produce a radiant beam.”⁵

We say of this English heater that if the inventor had a conception of the desirability of utilizing a radiant energy beam for heating purposes, he failed to embody that conception in a practical form producing the radiant beam of the Brown heater. It seems to be no more than a mental conception without embodiment in practical form.

But did the inventor have a conception of the radiant beam principle? If he did, it was certainly a very vague one and not sufficient to instruct others regarding its principle or the mode of embodying it in practical form. In this behalf defendant places reliance upon the “provisional specification” of the patent.

Under the English law a person may file a provisional specification, which is in substance and effect nothing more than a vague, indefinite and general description of an invention which has not yet been completed, but which will be completed later, and when so completed will be described in what is known

⁵ This testimony refers to the diagram of the Simplex heater shown in Defendant's Exhibit 8 (p. 591 of Electrical Times).

as the complete specification. The English patent is not granted on a provisional specification, but only on a complete specification, and if no complete specification is ever filed, the provisional specification becomes *functus officio* and is analogous to what is known in the American law as an abandoned application, being ineffective for the purpose of anticipating a subsequently granted patent to another. Therefore, any statements made in a provisional specification are intended as mere general statements without specific description of detail.

Now in this English provisional specification we first find this statement:

"This invention has reference to electric radiators and the object is to provide an apparatus of convenient form in which the radiant heat issues in the form of a condensed beam of rays, divergent, approximately parallel, or convergent, as the case may be, and adapted to be pointed in any desired direction, horizontally or vertically."

It is difficult to understand precisely what is meant by this vague language. It would seem therefrom that sometimes the rays were to be divergent, at other times approximately parallel, and at other times convergent. The only rational explanation we can suggest is that in the operation of the device some of the rays will be divergent, others approximately parallel, and still others convergent. But this is not a description of the beam type principle. According to the beam type principle all the rays must be

parallel and be consolidated into a cylindrical form.

In referring to the reflector, the provisional specification says:

"The reflector is preferably in the form of a cone; this being a shape which can be cheaply rolled into form out of sheet metal; it is usually made of or lined with sheet copper, the inner surface being highly polished. * * *

The form and proportions of the reflector depend upon circumstances; it should be deep enough to fully house the heating element, and to further protect the latter, the open end of the reflector should be fitted with a detachable rim carrying a grating of coarse wire mesh or the like. * * *

The reflector may with advantage be corrugated or fluted, as this stiffens and improves its internal appearance when the heating element is incandesced."

It will be seen from the foregoing that there is no sufficient disclosure in this provisional specification of a smooth-faced reflector showing the beam type principle, as now understood in the art, nor is there any sufficient disclosure of how to build a structure disclosed in said specification. It is simply a vague general indefinite pronunciamiento to the effect that the inventor was desirous of doing something without pointing out the method. There is nothing in our opinion in the provisional specification worthy of serious consideration.

But it is asserted by defendant, that the complete specification is a sufficient disclosure of a smooth-

faced parabolic reflector. We challenge this assertion. In the complete specification, which seems to have been filed some six months after the filing of the provisional specification, it is said:

"This invention relates to electric radiators of that type in which an electrically heated conductor is held in position in a movable reflector.
* * * The invention also relates to the mode in which the heating element is attached to the reflector and connected to the terminals."

The specification then proceeds to describe the conical reflector by referring to the drawings, and in that respect is exact. After describing the cone with its flutes and corrugations, the specification then makes this statement:

"or the reflector may be, in longitudinal section, in whole or in part of parabolic or the like contour, according to the form desired for the emergent beam of rays."

This seems to be the only place in the specification where any divergence from the cone is suggested. It amounts in substance to a statement that the reflector may be of parabolic contour either in whole or in part. In other words, it says to the inquirer for knowledge, if you don't care to make the reflector of conical form, as I have described, you can make it wholly parabolic or partially parabolic. But the patentee gives no directions as to how a parabolic form should be made and arranged. He shows no parabolic form in the drawings, nor does he describe

any such in his specification. There are many different forms of parabola, but not all of them are suitable for an electric heater. The form used by Brown is a shallow one, and that is the proper form for use. A long deep parabola would not be suitable or appropriate for the purpose in view. The English patentee does not tell us whether he would use a flat parabola or a long one. He merely says in substance to the inquirer, you may use any kind of parabola you please, but if you do use a parabola, you will have to design it yourself: I care nothing about such a device, and, therefore, I do not describe one. Such a disclosure as this is wholly and utterly insufficient for anticipatory or limiting purposes.

But further, if a parabola is used, are we to dispense with the interior corrugations and make it smooth-faced? The logical answer to this would appear to be in the negative. The patentee describes a cone with a corrugated interior, and then says that instead of such cone one may use a parabola. But he gives no directions to dispense with the corrugations. Hence, the inference is that the parabola must have corrugations on its interior. Such a parabola would be liable to the same objections as the fluted cone. It would not produce the radiant beam of the Brown patent.

We assert that this English patent is not a sufficient disclosure to anticipate Brown. The rule on this subject is thus stated in Walker on Patents § 57, p. 72 (5th Ed.):

"Novelty is not negatived by any prior patent or publication, unless the information contained therein, is full enough and precise enough to enable any person skilled in the art to which it relates, to perform the process or make the thing covered by the patent sought to be anticipated."

Is the disclosure of the English patent sufficient to answer this rule? Is it full enough and precise enough to enable a person to make the Brown heater? Can a person read out of that description the invention of the Brown patent? We think not. Clearly, the corrugated cone is no anticipation, and equally so, we think, is a corrugated parabola. The English patent discloses no smooth-faced cone, and surely not a shallow cone of any kind nor a smooth-faced parabola.

In conclusion, it is pertinent to inquire why this English device has never gone into use. The sample which we produced in evidence as plaintiff Exhibit 7 is probably the only one in the United States. The person who gave it to us says he got it from England. Brown testified at page 123 that none of those heaters had been on the market in the United States that he ever knew of, and that he had a good opportunity for knowing. Defendant produced no evidence of use either in the United States or elsewhere. It is safe to say that if there had been any such use, the evidence thereof would have been forthcoming. We may assume, therefore, in this state of the record, that this device has certainly never gone into use in

the United States and possibly nowhere else. This is the strongest evidence of inefficiency that could be produced, and convinces us more than ever that this English patent is nothing more than a mere paper patent which is wholly ineffective for the purpose of anticipating a valuable invention which has gone into universal use and displaced all antecedent devices intended for a similar purpose.

WARNER PATENT, 1,120,003, DEC. 8, 1914
(Defendant's Exhibit H.)

An exemplar of this patent was put in evidence as "Plaintiff's Exhibit 8" (Rec., 131). It does not embody the radiant beam principle. It shows a large hemispherical bowl of concavo-convex form, which is called in the patent a reflector, but no description of its reflecting qualities is to be found in the patent. The material of which it is made is not stated. It shows a heating element of large circular form and a central hole through which an ordinary electric light bulb is inserted. This circular heater element is not located "at or near the focus," but away from the focus near the mouth of the bowl. Back of this element and between it and the reflector is a shield in the shape of a band of metal, which prevents the radiant energy of the coil from impinging against the reflector. The front of the element is covered up with a large circular grid work of metal. Thus we have in the structure a heater element protected

at the back and front so as to prevent the heat rays of the element impinging against the reflector. The fundamental idea of the device is that a large volume of air will be heated by convection, and then this large volume of hot air will emerge from the mouth of the bowl and be discharged into the room for the purpose of heating the air in the room. The specification says, beginning at line 59 of page 1, that the device is so constructed that it "is capable of readily heating large volumes of air making it particularly useful for the heating of rooms." On this subject the witness Henry says at page 105 of the record:

"The object of this and other heaters in the art seems to have been the production of warm air, with the idea that the transference of warm air by convection will do the desired heating. The Brown heater is not intended to produce warm air, it being distinctly a radiant heater as distinguished from the type of heater indicated in the Warner patent."

And on page 106 the witness Henry continuing his description says:

"The manner in which the annulus carrying the resistance is formed and its location, materially away from any focal range, clearly indicates the intent of the patentee was not the employment of a reflecting surface to produce a beam, nor did he produce a reflecting surface, a heat unit which would produce a beam, but, rather, a container or circulating structure about which air would circulate and be heated."

All this is clearly apparent from the disclosure of the Warner patent. The device is simply a *collector of hot air which will be discharged in large volumes into the room as an indiscriminate mass in all directions for the purpose of heating all the air in the room by convection*. It is not a reflector in the true sense of the term. It does not disclose or show the principle of a radiant beam heater. *It is merely a hot air stove*. It is inferable from the record that this device was a failure and therefore abandoned. The patent is owned by the firm of Landers, Frary & Clark of New Britain, Conn., which is one of the large manufacturers of electric contrivances, and it can scarcely be supposed that said firm would not have pushed this device if it had been a successful one. Certainly it does not appear to be on the market at the present time. The testimony of Brown in reference to it is found at the bottom of page 123 and top of page 124 of the record, and is as follows:

“Referring to the other heater which has been offered in evidence here, the Warner patent (Defendant’s Exhibit H) I talked to some dealers and they tell me that that has been taken off the market by Landers, Frary & Clark, the manufacturers. I have endeavored to find another one in the city here but have been unable to do so.”

This Warner device, therefore, is another of the numerous efforts made to produce a successful portable heater, but which like the others utterly failed

and was consequently consigned to the limbo of abandoned experiments.

EARLY MAJESTIC DEVICES

(Defendant's Exhibits A, B, C and D, and Plaintiff's Exhibit 6.)

These devices are those illustrated in the Shoenberg patent (Defendant's Exhibit I) already considered. The history of the attempted exploitation of these devices has already been given in our brief on the Design patent in case No. 3616. To preserve the continuity of our argument we herewith repeat that history.

In 1914 the Majestic Electric Development Company was incorporated for the purpose of exploiting a portable electric heater. Edmund N. Brown and Milton H. Shoenberg were the two active parties in that corporation, and the company essayed to put on the market portable electric heaters made under the Shoenberg patent. The business was an experimental one at the start, Mr. Brown saying that it was "in a period of evolution," and they were experimenting all the time to see what was the best (Rec. 124). The first heater they put on the market in 1914 was of the pendant type, designated by the plaintiff's trade name "No. 1." The reflector was of small dimensions, made of nickel, and the shape was like a pie-plate. It was adapted to be hung from a lighting fixture in the ceiling or other point of suspension,

not to be moved about on the floor (Rec. 120). One of the devices was introduced in evidence and marked "Plaintiff's Exhibit 6" (Id.) This device was purely experimental. It proved unsuccessful and was soon abandoned (Rec. 122 and 124).

Shortly afterwards the shape of the reflector of this first device was changed from a pie-plate to that of a shallow dish resembling a soup plate. It likewise was made of nickel and intended to be hung from a point of suspension as in the case of the first device. One of the devices was put in evidence by defendant and marked "Defendant's Exhibit A" (Rec. 120). This likewise proved to be a failure and was abandoned (Rec. 122 and 124).

The next heater put on the market by plaintiff was one known by their trade name "No. 2." It consisted of a small nickel reflector of a flat dish shape mounted on a fluted column fastened in a base plate and adapted to be moved about from place to place in a room. It is represented by defendant's Exhibit B and was abandoned (Rec. 120-122 and 124).

About the same time another device was put on the market by plaintiff in which the reflector was similar to that of "No. 2," but was so arranged that it could be adjusted up and down on a vertical rod, and at the top of this rod was a glass knob adapted to be used as a handle for moving the device from place to place in a room. This device is represented by plaintiff's trade name "No. 3," and one of the devices is in

evidence as "Defendant's Exhibit D." It likewise was abandoned (Rec. 120-122 and 124).

Thus we see that so far plaintiff made three distinct efforts to produce a successful device, designated as No. 1, No. 2 and No. 3, and they all proved ineffective and were abandoned.

The next effort of plaintiff is represented by a series of devices known by the plaintiff's trade names "1b," "2b," and "3b." They all had a small bell-shaped nickel reflector, differing radically from the reflectors of No. 1, No. 2 and No. 3 and roughly resembling a bell (Rec. 121). In cross-section it resembled an old fashioned lady's bonnet. They were gotten up with the idea of being improvements in appearance upon the dish-shaped reflector devices which had preceded it and had been abandoned.

The device "1b" was of the pendant type, adapted to be suspended from a fixed point. The device "2b" corresponded to the original No. 2, except for the change in the shape of the reflector, while "3b" was the same as "2b" except for the addition of a second element. In other words, "1b" was to take the place of No. 1, "2b" was to take the place of No. 2, and "3b" the place of No. 3. These heaters were put on the market in the fall of 1915, but they proved to be unsuccessful and were soon abandoned (Rec. 121-124).

During that time the plaintiff had also gotten up another heater resembling in appearance an oil stove, but that also was abandoned. It cuts no figure in this

case, except to show another of the numerous unsuccessful experiments of plaintiff put forth in search for a successful heater.

The next heaters put on the market by plaintiff were known by their trade names "No. 4," "No. 5" and "No. 6"; but they were of the box type form, and cut no figure in this case either one way or another. They show the general appearance of a fire place or grate, somewhat similar to the old style gas heaters with asbestos backing (Rec. 121).

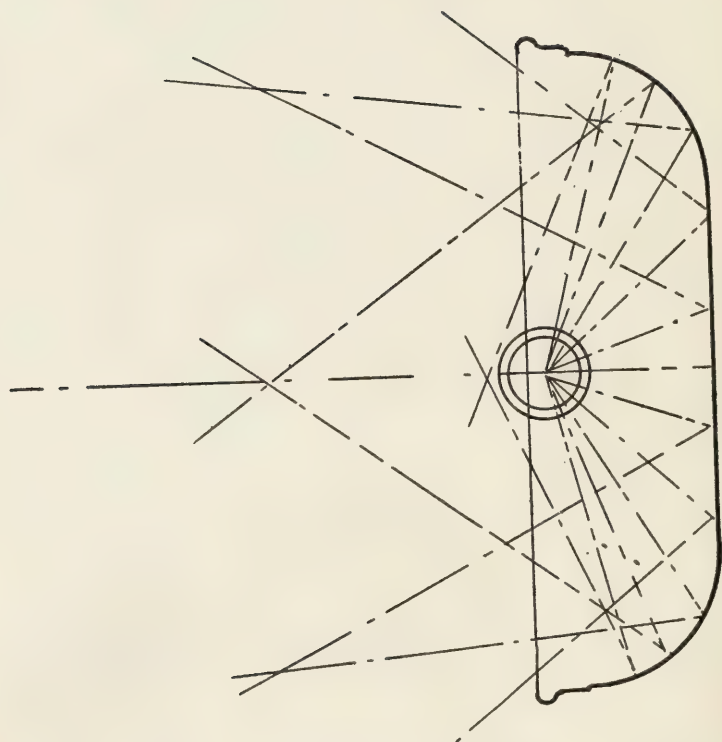
All of these early devices were abandoned as unsuccessful experiments (Rec. 124). They did not embody the principle of the radiant beam heater. They did not produce a cylindrical shaft or beam of parallel rays. On the contrary, they produced an indiscriminate mass of divergent, convergent, and criss-crossed rays which attempted to heat all the air in a room and by means of hot air to impart heat to the objects in the room.

Witness Henry, at page 99 of the Record, says of these devices:

"* * * but the form of the reflector in each of these exhibits is such that the rays from different portions of the heater unit itself, as reflected from different portions of the reflectors themselves, will be very divergent in the aggregate, and in the case of any individual point or ray, it will be in criss-cross, and will in turn criss-cross other rays in a way to produce a very highly inefficient radiant emanation. This radiant emanation cannot be called a beam in the sense of that which

is producible and is produced by the reflector of the Brown patent with the heating element arranged at the focus or about an axis on which several foci will lie. In either of the last two instances employing a concavo-convex reflector, that is, one which is curved at every point in such a way that the curve is expressable by a mathematical formula, as is that of a circle, or any of the conic sections and certain other curves; in the case of such a concavo-convex reflector with a heat source or unit mounted about its foci, the emanating rays will be conserved in the shape or form of a beam, whose cross-section will be more or less circular, according to the disposition of the heat unit within the reflector, and the shape of the reflector surface. Such a reflector beam is generated in and emanates from the Brown heater as constructed in accordance with the patent in suit, and likewise from the heater of the defendant's construction. In the reflector of Plaintiff's Exhibit 6, the greater portion of the reflector, or at least, that which received the greater portion of the rays, emanating from the heat unit, and which, to be efficient, should be reflected as a beam, is in reality a flat surface. The same applies to the other exhibits, with the exception of Defendant's Exhibit "C," in which there is likewise a flat surface, but not of quite so great proportions. This flat surface will reflect radiant rays in practically every direction."

This is illustrated graphically by the diagram on adjoining page, which is a cross-section of the early Majestic heater No. 2 (Defendant's Exhibit B). In this diagram we have shown the heat rays as they occur in actual practice. They are an indiscriminate mass of divergent, convergent, and criss-crossing rays.



SHOENBERG HEATER

There is no beam of parallel rays. The construction of the reflector prohibits it. Hence the failure of the device for performing the function of Brown's invention.

ADVENT OF THE HEATER IN SUIT

At this stage of the game the heater covered by the patent in suit was devised. The exact date of the invention is not given in the evidence, but it does appear that as early as April 4, 1916 (Rec. 39 and 44), plaintiff made and produced a sample of this heater and gave to it the name "No. 7," by which name it will be hereafter referred to. The exemplar of the device in evidence is marked "Plaintiff's Exhibit No. 2" (Rec. 39). It proved to be a success from the start, and thereupon all the prior heaters were permanently abandoned, and No. 7 proved to be the successful device for which Brown had been striving since 1914. It was the culmination of his experiments. In this connection Brown says at page 122 of the record:

"Our object in getting out so many styles of these heaters was that I knew I did not have the one that I wanted until I got the No. 7. I was striving until I hit on the No. 7. I did not have the one that I thought was the proper heater. I tested that matter out by putting them on the market and before the trade and selling them, and in this chain of evolution I finally reached the No. 7 heater, and I found that out as I put them

out to the trade. The others were abandoned all excepting Nos. 4, 5 and 6 (box type heaters) which we are selling today, but that is a different type of heater. After our No. 7 came on the market we did not put out any other style or change the design."

With this sample heater of April 4, 1916, in hand, Brown went East in that month for the purpose of securing bids for its manufacture on a large scale (Rec. 39). He visited persons in Canada, New York, and Philadelphia, showed the sample heater to them, and got quotations on the manufacturing cost (Id.). He was absent on this trip several months and returned to San Francisco in August, 1916 (Rec. 40). At that time he concluded to manufacture in San Francisco and immediately entered into a contract with the Boesch Lamp Company for the manufacture of the heater in quantities (Rec. 40). Dies, patterns, and other paraphernalia were prepared by the Boesch Lamp Company on a large scale and the manufacture of the No. 7 heater was begun in the fall of 1916 (Hiller, pp. 44-5, Record).

The first sale was made in October, 1916, to Holbrook, Merrill & Stetson and Harper & Reynolds at Los Angeles totaling 500—250 to each of these firms (Rec. 38). The heater gave instant satisfaction (Id.). During the remainder of the year 1916 (about two months) plaintiff sold from 7000 to 8000 of the heaters, sending them throughout the entire United States (Rec. 40). The demand increased, and during

the years 1917, 1918, 1919, and up to August, 1920 (the time of this trial), plaintiff sold from 350,000 to 400,000 (Rec. 40). The selling price at first was \$7.50 each, but at the time of the trial had increased to \$11.00 (Rec. 41).

A factory for their manufacture was started at Philadelphia to supply the eastern demand (Rec. 40), and an office was opened in Kansas City (Rec. 40) to accommodate the middle-west territory, the parent factory being at San Francisco. From its inception in 1916, the business has increased with "leaps and bounds" (Rec. 122) until now it has reached enormous proportions, and what was once an infant industry is now a large and successful business extending not only throughout every part of the United States, but into China, Japan, New Zealand, Australia, Spain, France, Great Britain, Italy, Denmark and the South American countries (Rec. 40).

It is pertinent at this point to remark that the various forms of heaters attempted to be marketed by the plaintiff prior to the advent of No. 7 were experimental, being put on the market in an effort to ascertain what was most satisfactory, and they were all abandoned as unsuccessful experiments immediately upon the advent of the No. 7 heater in October, 1916. Since then no substantial changes have been made in the No. 7 heater, and it is in substantially the same form now as it was in October, 1916, the only addition made being a hinge in the standard for vary-

ing the angle of the heat rays. That feature is covered by a separate patent to the plaintiff.

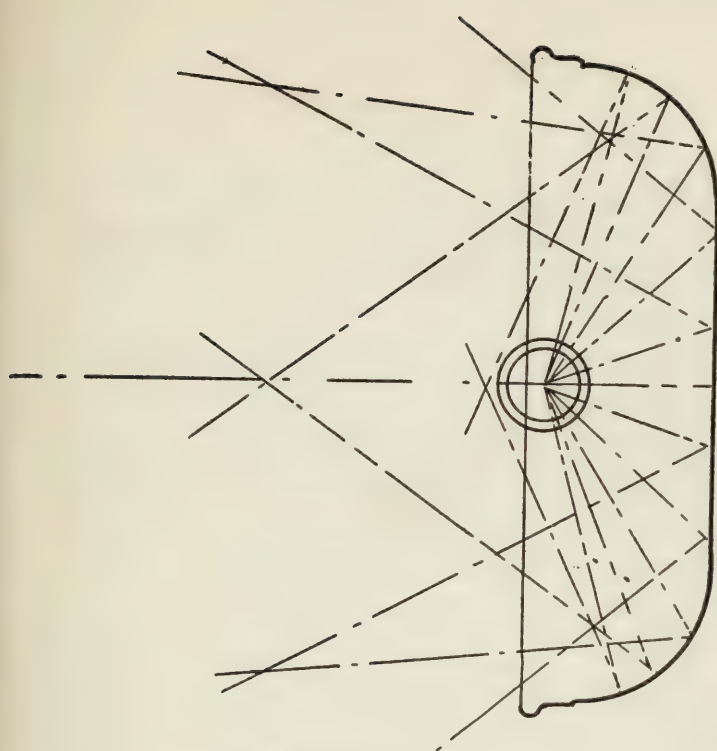
These facts speak the language of eloquence. They establish the facts that the early Majestic heaters made under the Shoenberg patent were unsuccessful and abandoned experiments and that the heater of the patent in suit (Brown's No. 7) solved the problem which had for years puzzled the minds of all persons engaged in the art. At this point it will be instructive to compare the mode of operation of the reflector of the patent in suit with that of the Early Majestic No. 2, already illustrated. Accordingly—on adjoining page we place side by side the two reflectors showing the travel of the heat rays. A mere glance is sufficient to expound the situation.

Only one other patent was put in evidence by defendant, viz:

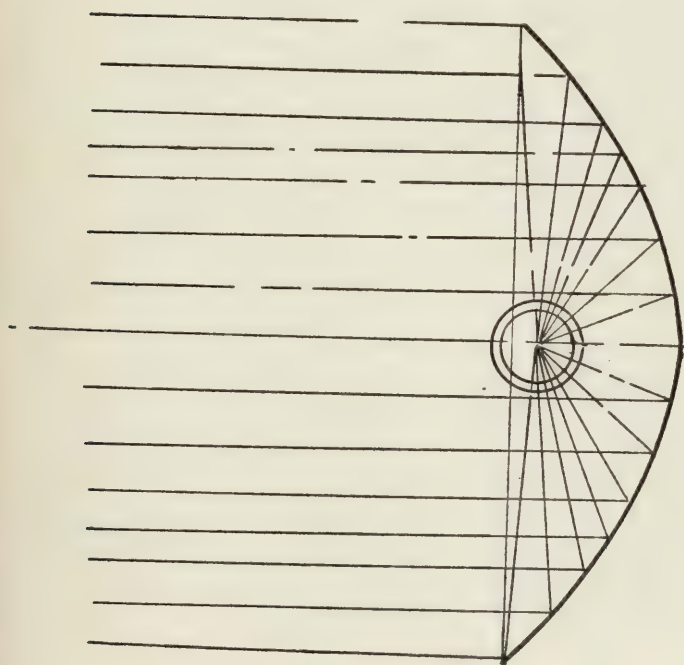
GEIGER PATENT 1194168, OF AUGUST 8, 1916
(Deft's Exhibit G)

This patent is too late to be a part of the prior art. The evidence shows Brown's invention of the patent in suit was made at least as early as April 4, 1916. This Geiger patent was not issued until August 8, 1916. Hence it is too late. Prior patents speak only as of the date of their issuance.

But even if it were a prior patent it cuts no figure in this case because it does not show the radiant beam heater. It shows a reflector in the shape of a seashell



SHOENBERG HEATER



BROWN HEATER

having corrugations or flutes on its surface, and two large electric light bulbs are arranged in front of it. It may be admitted that some small radiant energy would impinge on the surface of the reflector, but it would be so small an amount as to be negligible for warming purposes. And furthermore, the heat would be reflected in divergent rays and not in the form of a beam. This is too palpable to admit of discussion.

PRIOR PUBLICATIONS

THE FERRANTI FIRES

These publications show certain heating devices which may be designated as "The Ferranti Fires." The verbal description given is rather vague and indefinite, and all we can get therefrom is a general idea of the device. It shows a circular copper bowl of polished copper of curved sides and flat bottom, and on the bottom of this bowl is located a circular plate of quartz glass, which is caused to become a bright red by contact with a spiral resistance unit in front of which it is clamped. The idea seems to be to heat up this quartz glass plate. The resistance element is wound in the form of a spiral and is not shown to be at the focus. The device is mounted on four legs, and there is no wire guard or cage in front.

Defendant's Exhibit 4 (page 362 of the Electrical Times of March 6, 1913) is the only one of the exhibits which attempts a detailed description, and there we find the following:

"The resistance spiral, which forms the basis of the heating element, is thoroughly insulated, and is so disposed that expansion and contraction may take place without damage to the spiral. The alloy used for the resistance spiral is identical with that employed for cooker discs, and withstands high temperatures for prolonged periods. It is totally enclosed in a circular case formed by a metal rim, the back of which is closed by two discs of asbestos board with air spaces between to diminish the loss of heat. The front is covered by a quartz disc held in position by a cast-iron clamping ring. This becomes red hot several minutes after switching on, and is unaffected by the spilling of water or grease."

In defendant's Exhibit 1 (page 79 of the Electrical Times, January 25, 1912) it is said of this device:

"It consists of a closely wound spiral disc of nichrome or similar tape, interleaved with mica (a modified variety of the old Ferranti winding), and held in close contact with a circular plate of quartz glass six inches in diameter. The rated consumption is 800/900 watts, but in practice it is from 1,000 to 1050, which is sufficient to bring the wire and glass to a bright red heat. This disc is surrounded by a circular bowl of polished copper, which concentrates and reflects the heat rays. Like the Bastian heater, the greater part of the energy is given out as convected heat, but there is considerable radiant energy, and owing to the reflecting properties of the bowl, this can distinctly be felt at a distance of many feet. It has much the appearance of a red hot fire, hence its name, and its effect is much the same. * * * It can be used for toasting, grilling, or when horizontal, for heating liquids in flat-bottomed circular

vessels. Cigarettes or paper may be lighted by contact with the glowing quartz, and herein lies the danger which was pointed out a week or two ago in the *Electrical Times*. * * * It is slower to heat up than the Quartzalite convectors, owing probably to the thickness and large surface of the quartz plate in front, and little or no warmth is available for 5 or 6 minutes after switching on. In this respect it resembles a convector rather than a luminous heater—a piece of bread can be toasted to perfection, both sides, in less than a minute and a half, by holding it close in front of the glowing disc.”

And in Defendant's Exhibit 2 (page 37 of the *Electrical Times* of January 11, 1912), it is said:

“The red-hot quartz plate can be used for boiling water in a flat-bottomed kettle by swivelling the heater into a horizontal position, for toasting bread or for many purposes for which a circular hot plate is suitable, the vessel to be heated being set down in direct contact with the heating surface.”

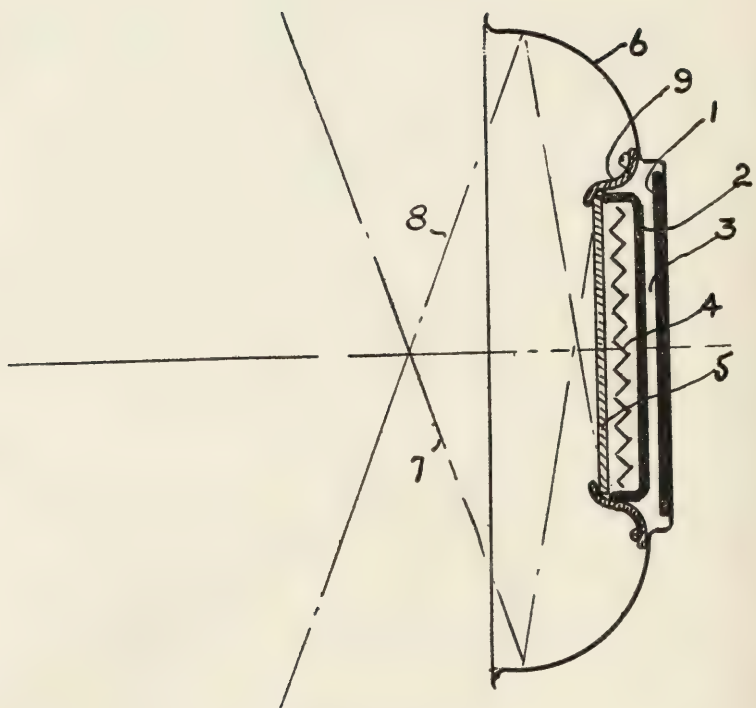
It is to be noted in this connection, however, that the device is a dangerous one, for in defendant's Exhibit 2 it is said:

“This, however, may constitute a danger, since there is nothing to prevent accidental contact with the red-hot quartz. * * * Two cases have already been brought to our attention which point clearly to the need for protection. In the first a child lighted a screwed-up newspaper by holding it against the incandescent surface, and in the second a piece of dress material fell on to it and

flared up. Fortunately neither instance resulted in any serious damage, though the child was much frightened and slightly burned on the hand."

The cut on the adjoining page, which is a cross section, may be taken as a visualization of the verbal description. It is our interpretation of the mechanical structure as near as we can spell it out from the description. In this diagram 1 represents the inner asbestos board; 2 the outer asbestos board; 3 the air space between the two asbestos boards; 4 the spiral heater element; 5 the circular quartz disc which becomes red hot; 6 the annular copper bowl; 7 and 8 two heat rays crossing each other. We have illustrated only two such rays, but it is apparent that there will be other similar rays. The majority of the heat rays, however, will emanate directly from the quartz disc without striking the sides of the bowl at all, and they are all convected heat. Hence the statement of Exhibit 1, that "the greater part of the energy is given out as convected heat."

It will be seen therefore that the heating unit is "totally enclosed" in a case or receptacle formed by asbestos boards in the bottom of the bowl, and a quartz disc in front, which is said to be six inches in diameter. This quartz disc is clamped in a metal ring. Outside of and beyond this ring is an annular copper reflector. Consequently, we have a copper bowl with a flat bottom. The diverging and criss-



FERRANTI FIRE

crossing rays are shown in the cut. The "beam" is not there.

The fundamental idea is to convey heat from the red-hot disc by convection, not radiation, and primarily the device is a cooking utensil, or an electric stove. When it is used for heating a room it heats primarily by convection, being similar in that respect to an open fire or steam radiator. In that respect the exhibit says specifically "that the greater part of the energy is given out as convected heat." It may be that a small quantity of radiant energy will strike the annular portion of the copper bowl and be reflected therefrom into the room as shown in the diagram by the rays 7 and 8; but if so, the amount will be insignificant, and even then will not assume the form of a beam composed of parallel rays. They will be divergent and criss-crossed as shown in our cut. The primary object of the device is to heat by convection, whether it be used for heating a room, toasting bread, grilling beefsteaks, or boiling water.

It may also be noted that the Ferranti Fires do not appear to have ever gone into use in the United States. Nor is there any evidence of their use in England; but even if there was, it would be immaterial because use in a foreign country does not affect a United States patent.

We submit that these publications of the Ferranti Fires are not sufficient to disclose the radiant beam principle or operate as anticipations, or limitations on

Brown's patent. The rule on this subject is thus stated by the Supreme Court in *Seymour vs. Osborne*, 11 Wall. 555:

"Patented inventions cannot be superseded by the mere introduction of a foreign publication of the kind, though of prior date, unless the description and drawings contain and exhibit a substantial representation of the patented improvement, in such full, clear, and exact terms as to enable any person skilled in the art or science to which it appertains, to make, construct, and practice the invention to the same practical extent as they would be enabled to do if the information was derived from a prior patent. Mere vague and general representations will not support such a defense, as the knowledge supposed to be derived from the publication must be sufficient to enable those skilled in the art or science to understand the nature and operation of the invention, and to carry it into practical use. Whatever may be the particular circumstances under which the publication takes place, the account published, to be of any effect to support such a defense, must be an account of a complete and operative invention capable of being put into practical operation."

The same rule is announced in Walker on Patents at Section 57, where several decisions of the Supreme Court are quoted. We may add thereto the subsequent case of *Williamson vs. Electric Co.*, 236 Fed. 353, where the rule is thus stated at page 354:

"The invention described in the publication must be identical in all respects with that whose novelty it contradicts. The same idea of means

in the same stage of development as that which the inventor of the later has embodied must be thereby communicated to the public."

Within the purview of this rule the publications of the Ferranti Fires are insufficient.

This disposes of the prior art as shown by the record. As we have already remarked, the opinion of the lower court refers to an English patent to Kempton, No. 12,320, and an English patent to Taylor, 102,070. But those patents were not put in evidence in this case and form no part of the record; hence we are not called on to consider them.

Our conclusion is that no heater of the prior art shows the radiant beam principle. The utmost that can be said is that some of the inventors of the prior art conceived of the desirability of utilizing that principle, but did not disclose a device for practicing it successfully. In a word, efforts had been made to attain the desired result, but none was successful, and to Brown is due the credit of solving the problem and producing the first concrete physical structure which successfully embodies and carries out said principle. That being true, he is the inventor of a primary improvement and is entitled to a liberal construction of his claim.

It remains now to inquire if the patent has been infringed.

DEFENDANT'S MACHINE

This device is represented by Plaintiff's Exhibit 5. It was placed on the market by defendant in 1919, practically three years after the plaintiff began its exploitation of the Brown invention.

The defendant's device is a portable electric heater provided with a substantial circular base plate, in the center of which is mounted an upright standard. This standard is forked at its apex, thereby producing a trunnion joint for the adjustment of the reflector, so that the same may have a swiveling motion for changing the angle of inclination of the reflector. Brown's patent shows only a stationary standard not provided with any device for changing the angle of inclination, though he has a subsequent patent covering that feature. This swiveling motion of the defendant's heater cuts no figure in this case, and is merely a variation of detail in respect to a part of the Brown structure not covered by the claim.

The reflector of the defendant's machine is made of highly polished copper, and is concavo-convex in form. It has not the specific flat flange 3a of the Brown patent around its edge, but instead thereof it has a turned over or round flange, and this substitution of a round flange for a flat flange is the principal point relied on by defendant to show non-infringement.

The heater element of the device is arranged longi-

tudinally of the axis passing through the focus of the curve. This also is relied on as another differentiating feature, but it is of no moment because the Brown patent does not call for any specific arrangement of the heating unit except that it is "supported at substantially the focus of said reflector."

The defendant's heater is also provided with a protective cage consisting of guard wires arched between opposite sides of the reflector. This device we claim to be an infringement of claim 1 of the Brown patent.

QUESTION OF INFRINGEMENT

The conclusion of infringement follows whether this claim be given a broad or a narrow construction. The lower court held that there could be no infringement unless the claim was given a broad construction. This was error. But even on the theory of a narrow construction, the holding of non-infringement was erroneous. In other words, there is infringement whether the claim be broad or narrow.

FIRST THEN AS TO A BROAD CONSTRUCTION. The plaintiff's device was beyond all question the first in the art to show in concrete form a device for successfully applying to a useful purpose the broad principle of the radiant energy beam. As we have already shown in our review of the prior art, the utmost that could be said in favor of that art is that certain inventors may have conceived of the desirability of

utilizing the radiant energy beam, but failed utterly to embody that principle in such practical form as to make it useful for the purpose in view. In all of those devices the heat rays emanating from the reflectors are scattering rays, which disperse themselves at various angles throughout the area of the room in which the heater is located. Not one of them is successful in producing a radiant energy beam. Necessarily they emitted some rays in straight lines, which if separated from the other rays might be called a beam; but in connection with those particular rays they also emitted other rays at divergent angles and criss-crossing one another. In fine, they produced a heterogeneous indiscriminate mass of rays, whereas Brown molded that irregular mass into a homogeneous cylindrical shaft or beam of parallel rays. No prior heater did this. Consequently, Brown produced an improvement over pre-existing devices of such a substantial character as to entitle him to a liberal interpretation of his claim. While it may be conceded that he was not the first in conception of the radiant beam principle, he was the first to embody that principle in concrete and useful form. This places his patent in the category of a primary improvement.

The case at bar is ruled by two decisions of this court where the doctrine of primary improvements was considered. The first is that of *Letson vs. Alaska Packers' Association*, 130 Fed. 140. There

the device was a machine for heading filled cans, and it appeared that a prior machine to one Jordan was capable of heading filled cans, but in an ⁱⁿefficient and impracticable manner. This Court said at page 140:

"So that while it cannot be said that the Jensen machine was a pioneer patent, in the sense that it was the very first to accomplish the result of heading filled cans, Jensen nevertheless was the first to successfully head filled cans with any practicable degree of speed or efficacy. He brought to success what prior inventors had essayed and but very imperfectly accomplished. In so doing he adopted some devices that had been used before, combined them with others that had not been used, and added the necessary elements to make a practical and successful machine. His combination and invention was, we think, more than a mere improvement or perfection of what had preceded it. It was of such novelty and importance as to constitute a distinct step in the progress of the art, and it went into immediate and extensive use. His claims are therefore entitled to a fairly liberal construction."

The second decision of this Court is *American Can Co. vs. Hickmott Asparagus Canning Co.*, 142 Fed. 144-5. Beginning at the bottom of page 144 this Court said:

"But we think it cannot be said that Jordan was a pioneer inventor in the sense that he was the first to produce a machine to successfully form can bodies. He was the first, however, to form can bodies by the use of a rotating horn. In so doing, he made a highly meritorious improvement and

an invention which marks a distinct step in advance in the progress of the art, and which has gone into extensive and successful use. His invention must be accorded a place inferior, perhaps, to that of a primary invention, but far in advance of those which constitute but a slight improvement on the prior art. His claims, therefore, while not entitled to the broadest construction accorded to the former, are not to be restricted to the narrow construction applicable to the latter. He is entitled to the protection of the doctrine of equivalents in proportion to the nature of the advance which his invention indicates."

Still another, and more recent, ruling of this court on the same point is the case of *Simplex Window Co. vs. Hauser*, 248 Fed. 924.

Another instance of a primary improvement is found in the case of *Consolidated Valve Co. vs. Crosby Valve Co.*, 113 U. S. 159, 179, by the Supreme Court, where the court says:

"Richardson's invention brought to success what prior inventors had essayed and partly accomplished. He used some things which had been used before, but he added just that which was necessary to make the whole a practically valuable and economical apparatus."

Still another instance is found in the case of *Wagner Typewriter Co. vs. Wyckoff, Seamans & Benedict*, 151 Fed. 590, where the court says (bottom of page 590):

"He converted a theory into a fact. His inven-

tion belongs to that large class which have ever been treated with liberality by the courts, where the inventor by an apparently simple change, addition, or transposition of parts, has converted imperfection into completeness."

These cases apply aptly to Brown's invention. He converted theory into fact: imperfection into completeness. Yet we were thrown out of court with the statement that he merely made "minor improvements in a known mechanism." Thus a valuable invention was slaughtered on the altar of technical construction.

It must also be kept in mind that none of these prior devices went into extensive use nor did they even survive. They were tentative efforts in a certain direction which resulted in failure. Hence they have been consigned to oblivion. They stand in the category of abandoned efforts. On the other hand, Brown's invention immediately went into universal use. It superseded everything which had preceded it in that line, and to-day is known and used throughout the whole civilized world. All this was done in the short space of about three years.

In view of the foregoing it is idle to argue that Brown did not make a meritorious contribution to the world. It is idle to assert that he invented "only minor improvements in a known mechanism." His invention was substantially a basic one in that it is the first embodiment in concrete and successful form

of a well known scientific principle. We submit, therefore, that his claim must be given a construction commensurate with the breadth of the invention, and giving it such construction, infringement necessarily follows. The lower court conceded that if the claim were entitled to a liberal construction infringement would follow.

AS TO THE NARROW CONSTRUCTION. We assert that even if the claim is not given the broad construction contended for, but is limited to a narrow construction, nevertheless infringement will follow. To show this we have merely to compare the defendant's structure with the elements of the claim. Those elements are only four in number. The first is a concavo-convex reflector. It is not denied that the defendant's machine contains such a reflector.

The second element is specified as "a heating unit supported at substantially the focus of said reflector." It cannot be denied that the defendant's machine has this element. The only respect in which it differs from the element shown in the drawings of the Brown patent is that in the Brown drawings the element is shown as being arranged transversely to the axis, whereas in defendant's machine it is arranged longitudinally of the axis. But the "arrangement" of the element is no part of the claim. The specification (at page 1, line 30 et seq.) says that this heating unit is "supported in any suitable manner in spaced rela-

tion with the reflector 1 and preferably at the focus of its curved surface." This is certainly broad enough to include a longitudinal arrangement. It is quite true that in the drawings of the patent the element is shown to be supported in a transverse direction; but that is only an illustration of what Brown considered to be the best arrangement. It is in no way a limitation. He says in his specification, beginning at line 33, page 1, where he describes the specific arrangement shown in the drawings:

"I prefer to support the heating unit by securing the terminals of the resistance coil 6, together with reinforcing wires 8, wound around the ends of the bobbin if desired, to the standards 9, the ends of the wires being held by clamping screws 10."

This is an answer to the contention that the element must be limited to the transverse position. Language could not be plainer. The law requires that a patentee shall show only one form in which the invention may be embodied, which form must be the one which the inventor considers the best. He is not required to show a plurality of forms. When he has shown one form, that is sufficient. If the invention can be embodied in other forms, the patent extends thereto. This rule of law, accompanied as it is by the direct statement in the specification, that the arrangement of the elements shown is only the preferred one, entitles the court, and indeed compels the court, to

hold that the longitudinal arrangement of the element is as much within the purview of the invention as the transverse arrangement.

In this connection it is to be noted from the claim that the only limitation on the arrangement of the heating unit is that it must be supported at "substantially the focus" of said reflector. That the defendant's heating unit is so supported cannot possibly be denied. That is a plain and palpable fact. Of course a focus mathematically considered is only a point, and technically speaking nothing can be located on a point. That, however, is a refinement not applicable to the affairs of real life. The meaning of the claim is sufficiently plain. That is, that the element must be arranged as near to the focus as is practical. If Brown had arranged his element outside of the curve of his reflector, then it would not have been arranged at substantially the focus, nor would it have accomplished the object sought. His coil passes through the mathematical focus of the curve and is therefore arranged at substantially the focus. The same is true of the defendant's heating unit. It likewise passes through the mathematical focus, though in a longitudinal direction instead of in a transverse direction; but it is arranged at substantially the focus or as near to the focus as is practical. If the defendant could avoid infringement by merely turning his heater element at a different angle, then the patent law would be nothing more than a farce. The essential idea was

the element itself, not the angle at which it was tilted.

The third element of the claim is stated to be "an annular member extending outwardly from the margin of the said reflector." Note the broad language here used, an annular *member*. The word *flange* is not used, but the word *member*. The specific illustration of this annular member is designated in the patent by the letters 3a. Its function is stated as follows, beginning at line 62, page 1 of the specification:

"In order to prevent the outer exposed edge of the heater from being heated I provide the casing with a marginal annular flange 3a."

This flange is in substance and effect nothing more than a cooling member. The reflector itself becomes heated by absorption of a portion of the radiant energy, and if its edge were left exposed, that edge would become highly heated and is a result to be avoided. Therefore, Brown provided the flat flange for that purpose. This flange does not become heated, except to a small extent, because the heat rays do not impinge upon it. These rays emanate from the mouth of the reflector in straight lines as a beam, and the flange 3a is outside of their path of travel, hence it remains cool. (See Dep. Henry, Rec. 51.)

The defendant realized that a cooling member around the edge of the reflector was necessary, or at least desirable. It provided one by turning over the edge of the reflector in the form of a round flange.

All that was done was to convert Brown's flat flange into a round flange without producing any different result, but on the contrary obtaining practically the same result. Defendant's round flange is a cooling element, and that is all that it is. The question for this court to decide is whether the round flange is the equivalent of the flat flange, both being used for the same purpose and both accomplishing the same result. (See Deposition of Henry, Rec. pp. 62-3.) Henry tested the device and found that the round flange was cooler than the reflector surface, and accomplished "exactly the same purpose" as Brown's flat flange (Rec. 63). At page 59, when comparing the two heaters, he said:

"They both produced substantially the same result in substantially the same manner by substantially the same means."

His testimony as to infringement is comprised between pages 53 and 64.

Fortunately there is a case in this court which seems to decide the identical question here involved. We refer to the case of *Sherman, Clay & Co. vs. Searchlight Horn Co.*, 214 Fed. 86.

The invention was a phonograph horn made up of several strips of metal. The patent showed in its drawings flat flanges for joining the strips together, and they were identified in the claim as "outwardly directed flanges." The defendant used a flange of

curved shape. He had merely taken the flat flange of the patent and turned it over in the shape of a round flange and then contended that he had not used "an outwardly extending flange"—that is to say, a flat flange. This court held that the two were equivalents and that no one could avoid a patent for a flat flange by merely turning it into a round flange. This authority seems to be strictly in point. Note the language in the two cases. In the phonograph case it was "outwardly directed flanges." In Brown's claim the expression is "an annular member extending outwardly." In view of the authority cited, how is it possible to contend that the round flange of Westinghouse is not the equivalent of the flat flange of Brown?

The fourth element of the claim is "a protective cage having guard wires arched between opposite sides of said annular member." It is not denied that defendant's machine has this element. In this behalf defendant has servilely copied the plaintiff. It could have used other forms of a protective cage, such for instance as the flat wire cage shown in Defendant's Exhibit 15, or the flat wire gauze shown in Defendant's Exhibit F. But instead of using any of these devices, defendant has provided a cage in servile imitation of Brown's cage of *arched* wires over the mouth of the reflector.

If the plaintiff is entitled to invoke the doctrine of equivalents, then beyond all peradventure of a

doubt there is infringement of claim 1. The only theory on which infringement can be negatived would be that plaintiff is not entitled to the doctrine of equivalents in any form whatever. That seems to have been the theory on which the lower court decided the case, and brings up the question as to the extent of the doctrine of equivalents a patentee is entitled to in the case of a narrow invention.

It would be useless to dwell at length upon this point. It is elementary that every claim, whether broad or narrow, is entitled to the doctrine of equivalents. We need only refer to the *Paper Bag Case*, 210 U. S. 405.

In the case of *Lepper vs. Randall*, 113 Fed. 628 it was said:

"In no case is a patentee to be denied protection commensurate with the scope of his actual and distinctly described and claimed invention by wholly excluding him from the benefit of the doctrine of equivalents."

In *Lang vs. Twitchell*, 207 Fed., 369, it is said:

"Primary inventions are entitled to a looser application of the doctrine of equivalents than secondary inventions; but even a secondary invention is entitled to invoke the doctrine of equivalents, although to a more limited extent. The doctrine of equivalents applies to all classes of inventions."

Walker on Patents, at Section 359 of his work (Fifth Edition) states the rule as follows:

"But a patentee is not to be denied the benefit of the doctrine of equivalents to the extent necessary to protect his actual invention, although the invention may be a narrow one."

This rule was entirely ignored by the learned judge of the lower court in this case. He held that the invention was a secondary one covering "only minor improvements in a known mechanism," and therefore the claim for said invention was not entitled to the doctrine of equivalents at all. Indeed he seems to concede mechanical equivalency, for he says at page 22 of the record:

"It is possible, of course, to characterize the turned-over edge of the defendant's reflector as a flange, and to find that in a slight degree it performs the function for which the annular member or flange illustrated in the Brown patent was designed, but such an effect is merely incidental."

As we construe this language it means in substance that equivalency exists, but that plaintiff is not entitled to invoke the doctrine because its invention is a narrow one. We submit that this is error.

WIDESPREAD USE

Under the decision of this Court in *Morton vs. Llewellyn*, 164 Fed. 693, following the rule of law established by the Supreme Court in *Krementz vs. Cottle*, 148 U. S. 556, serious consideration should be

given to this matter, but the lower court gave it no consideration whatever.

In that behalf it is to be noted in the first place that none of the prior devices has survived and they all have been superseded by the Brown invention. Among the prior art devices were those manufactured by the plaintiff prior to 1916, hereinbefore referred to as the early Majestic devices. They likewise proved to be unsuccessful, and were all abandoned. They did not solve the problem which the public demanded. There had been a long felt want for this device, as will be seen by reference to the numerous efforts of prior experimenters. That want was never supplied by any of those prior inventors, but *was* supplied by Brown's invention. Immediately upon the advent of that invention in the fall of 1916, it went into extensive use. During the last two months of 1916 plaintiff sold in the neighborhood of 8000. During the following years of 1917, 1918, 1919 and up to August 1920, approximately 400,000 were sold, and these sales extended all over the world, including China, Japan, New Zealand, Australia, Spain, France, Great Britain, Denmark, and South American countries (Rec. 40). It may be safely said that at the present time there is no part of the civilized world which these heaters have not occupied. The plaintiff started as an infant industry; it is now one of the large manufacturing concerns of the country.

As soon as this invention was put on the market

infringements sprang up. The first was the Hotpoint Electric Heating Company, of Ontario, California; suits were brought against them and their agents and judgments obtained. Then Eastern infringers appeared upon the scene, the principal one of which is the Westinghouse Electric & Manufacturing Company. This company is one of the largest electrical companies in the world. It had endeavored to market a portable heater under its Geiger patent, but as soon as the Brown invention became well known, it abandoned the Geiger device and began to manufacture the heater involved in this suit. It is one of the greatest tributes of praise which can be given to the merit of Brown's invention that the Westinghouse Company should have adopted it.

The other great electric company, the Edison Electric Appliance Co., had likewise adopted it, but took out a license and is now operating under the license.

In addition to these other manufacturers have put infringing devices upon the market, among them may be mentioned, Simplex Heating Co., Landers, Frary & Clark, The Rutenber Electric & Mfg. Co., and the Estate Stove Company (Rec. 118).

In fine, we have this condition of affairs, viz: prior to the Brown invention there had been a long felt want for the device in question; many different inventors throughout the country had endeavored to supply that want but had failed; many manufacturers had put out analogous heaters which failed; Brown

was the first to put out a successful heater involving this principle; his heater met with instantaneous success, and within three years extended all over the civilized world. The other manufacturers abandoned the particular styles which they had been attempting to market and adopted styles in imitation of Brown and involving the Brown invention.

In these circumstances the invention must be considered as one of great merit, and the claim therefor must receive a fair interpretation under the doctrine of equivalents. This was denied us by the lower court.

REVIEW OF THE LOWER COURT'S DECISION

The opinion commences at page 19 of the record and then proceeds to say, at page 22, that unless the Brown invention is generic and introduced a broad fundamental idea theretofore unknown in the art, there could be no infringement. It then proceeds to hold that the invention is not of that character. This conclusion is deduced from a review of the prior art. In that behalf it is asserted that the beam type heaters were shown and illustrated in the Shoenberg patent of September 1, 1914 (Defendant's Exhibit I); English patent to Kempton 12320; Morse patent of March 3, 1908 (Defendant's Exhibit F); English patent to Simplex of September 4, 1914; Warner patent of December 8, 1914 (Defendant's Exhibit H); Geiger patent of August 8, 1916 (Defendant's

Exhibit G); English patent to Taylor of November 16, 1916; and the prior publications of 1912 showing the "Ferranti Fires."

In regard to two of these prior patents, to wit, Kempton English patent 12320, and Taylor English patent 102070 of November 16, 1916, we have merely to remark that neither one of these patents was put in evidence in this case, nor does either of them appear in this record on appeal. Yet the learned Judge gave special force and effect to those two patents, and there can be no question that they, at least in part, influenced his decision. Beyond all question this is reversible error. This court is hearing this appeal upon the record which is before it and not upon some outside matter which the trial judge considered, but which was not put in evidence.

As an explanation of this glaring error, we say, off the record, that these two English patents were put in evidence on the trial of another and different case, which had been brought against another and different person, to wit, Holbrook, Merrill & Stetson, being case No. 499 in the lower court. The three Westinghouse cases involved on the present appeal were first tried, and then thereafter and following those trials the Holbrook, Merrill & Stetson case was tried, in which case the defendant therein was represented by different attorneys from those appearing for defendant in the Westinghouse cases. Now in this subsequent trial of the Holbrook, Merrill & Stetson case,

these two English patents of Kempton and Taylor were put in evidence; but we again assert that they were not put in evidence in any of the Westinghouse cases nor was it stipulated that they should be considered. Therefore, the trial Judge had no right to consider these two English patents in rendering his decision in the Westinghouse cases. They were no part of the evidence in those cases. Every case must be decided upon its own record, and upon that alone, and it can not be pieced out by reference to evidence in other cases of which the trial judge may perchance happen to be aware. It would have been no greater error if the trial judge in this case had selected some other prior foreign patent, either French, German, Italian, Spanish, Russian, Chinese or Japanese, which had not been put in evidence in the case, and had based his decision thereon. It cannot be denied that the opinion in this case was, partially at least, influenced by the Kempton and Taylor English patents. It so appears on the face of the opinion. How potent that influence was we have no way of knowing. All we know is that they had *some* influence, whereas they were not entitled to *any* influence whatever, because they were not in evidence. For this error alone the decree should be reversed.

Now turning our attention to the other prior patents referred to in the opinion of the lower court, we vigorously contend that they do not show or illustrate beam heaters. It may be admitted that they show

efforts at the production of beam heaters, but at the same time we assert that they are wholly ineffectual and ineffective to produce the desired result of a beam heater. The rays emanating from them are scattered indiscriminately from the mouth of the reflectors at divergent angles, and are not concentrated or solidified into the form of a beam of parallel rays. We have already gone over that matter in detail in respect of each one of the devices mentioned, and it would subserve no purpose of utility to dwell on the matter any further.

But even if it were true that these prior devices are beam heaters, it is virtually conceded by the opinion that the patent in suit shows a more perfect form of beam heater. In that behalf it is said at page 25-6 of the record:

"It is true that the types of reflector illustrated in the Shoenberg patent and employed by the plaintiff prior to the patent in suit created a less perfect beam, but the difference is in degree only."

This sentence embodies a fundamental error. The Shoenberg patent, and we use that merely as a type of the prior art, did not involve the *principle* of a beam heater though in a less perfect form, and the beam produced by Brown was not merely a difference in degree. In the Shoenberg heater the rays were scattered in all directions and at different angles. In the Brown device all the rays are concentrated

into a single large beam and discharged in only one direction, thereby producing a new result. To say that this is a mere difference in degree is to ignore scientific principles as well as to violate a fundamental rule of patent law.

But still further; the opinion of the trial court concedes the validity of the patent in suit, but holds that the invention is of such narrow scope as not to be entitled to the doctrine of equivalents at all, while virtually admitting actual equivalency. We have already referred to that portion of the opinion where it is said (page 22) that the turned over edge of the defendant's reflector may be called a flange and that in a slight degree it would perform the function of the Brown flat flange, but that such an effect is merely incidental, and that its primary purpose is to afford strength and a finished appearance. There are two errors in this. The first error consists in denying to plaintiff *in toto* the doctrine of equivalents. We have already shown that every invention is entitled to the doctrine of equivalents however narrow in scope it may be. The second error resides in the argument that while equivalency exists, it is incidental to the primary purpose of strength and a finished appearance. We understand the opinion to mean that the primary object of the Westinghouse flange was strength and finished appearance, not for cooling purposes, and that the infringement was *incidental*. If this means anything, it is that where a

defendant has no intention of infringing, but infringes unintentionally and incidentally by virtue of the construction he uses, then he has no responsibility. It makes intention the controlling factor, and ignores the actual fact. Of course there is no such law as this. If a person infringes, it makes no difference whether it was intentional or unintentional. It is the fact of infringement itself, not the motive, which the law condemns, and we marvel greatly that so learned and experienced a judge as the one who tried this case should have allowed himself to fall into such palpable error. That it was an error cannot be denied, and we ask this court to correct it by reversing the decree.

WAS THERE A MISTRIAL?

In conclusion there is a matter which we desire to call to the court's attention and which we submit without argument. It is this. The case was tried before Hon. Frank S. Dietrich, District Judge of Idaho, sitting in the place and stead of the resident judge of the Northern District of California, in pursuance of an order of the Senior Circuit Judge of the Ninth Circuit. That order appears at page 16 of the Record, and it authorizes Judge Dietrich

"to hold the District Court of the United States for the Northern District of California *during the months of August and September, 1920*, and to have and exercise *within* said District the same powers that are vested in the Judges thereof."

We have taken the liberty of underscoring the most essential parts of said order. In pursuance thereof, Judge Dietrich tried the case during the month of September, 1920, and took it under advisement. He then returned to Idaho, where he wrote an opinion which was transmitted to the court at San Francisco and filed by the clerk on *October 4, 1920*. On the same day Judge Maurice T. Dooling was presiding in the District Court for the Northern District of California, and in pursuance of the written opinion which had been sent by Judge Dietrich, ordered that a decree be entered dismissing the bill. Afterwards on *November 1, 1920*, when the Hon. R. S. Bean, District Judge of Oregon, was sitting in the District Court for the Northern District of California, a decree signed by Judge Bean dismissing the bill was entered in accordance with the order entered by Judge Dooling on *October 4, 1920*.

The question at once arises, is such a decree valid?

Judge Dietrich was appointed to hold court in the Northern District of California under provision of Section 14 of the Judicial Code, which provides that a Circuit Judge may in certain cases designate and appoint a judge of another district in the same circuit to have and exercise within the district first named the same powers that are vested in the judge thereof. It is to be observed, however, that the designated judge is to have and exercise judicial powers only "within the district" for which he is appointed. And

it is to be further observed that according to the order of appointment Judge Dietrich was authorized to exercise those judicial powers only "during the months of August and September, 1920." The facts are that the term of Judge Dietrich's appointment expired before his opinion was filed, and said opinion was rendered by him while he was not within said district.

Three questions arise:

(1) *Had he the power to act in the case at all while he was in Idaho and not within the Northern District of California?*

(2) *Had he the power to act in the matter after the expiration of the term for which he was designated to hold court in the Northern District of California.*

(3) *Can another judge, who did not try the case, sign the decree?*

If either of these questions be answered in the negative, then there was a mistrial, and the decree would have to be reversed irrespective of the merits, and a new trial ordered. We submit these questions to the court for answer. They should be determined definitely in the interest of proper practice. It has not been unusual for a judge, who has been designated to hold court in the Northern District of California for a specified time, to return to his home after the expiration of that time and decide cases which were submitted to him during the designated time. In fine, it has been customary to follow the course pur-

sued by Judge Dietrich in the present case, and were it a mere matter of convenience no question would be raised. But this is a question of power under a statute prescribing certain specific conditions under which a judge of one district may try and decide cases in another district. It must be conceded that Judge Dietrich would have had no authority to try this case in the Northern District of California in the absence of the designation required by the Judicial Code. If that is true, the question arises whether or not he has any authority under which a decree can be entered in the Northern District of California after the expiration of the time in which he was designated to act as judge. In other words, it is not a case of expediency or convenience, but one of power.

Dated, San Francisco,
February 21, 1921.

Respectfully submitted,

JOHN H. MILLER,
Attorney for Appellant.

No. 3617

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

MAJESTIC ELECTRIC DEVELOPMENT COMPANY
(a corporation),

Appellant,

VS.

WESTINGHOUSE ELECTRIC & MANUFACTURING
COMPANY (a corporation),

Appellee.

BRIEF FOR APPELLEE.

WESLEY G. CARR,

DAVID L. LEVY,

WALTER SHELTON,

Solicitors for Appellee.

FILED

1911

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MAJESTIC ELECTRIC DEVELOPMENT COMPANY
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vs.

Appellant,

WESTINGHOUSE ELECTRIC & MANUFACTURING
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Appellee.

BRIEF FOR APPELLEE.

This is an appeal by the plaintiff in a patent-infringement suit from a decree dismissing the bill of complaint.

For convenience, the parties will be here referred to as the plaintiff and the defendant.

SUBJECT MATTER.

The basis of the suit is United States letters patent No. 1,245,084 granted to the Majestic Electric Development Company, plaintiff-appellant, upon an application filed by Edmund N. Brown and covering certain alleged improvements in electric heaters.

In the District Court, infringement of claims 1, 2 and 4 of the patent in suit was alleged and urged, but the infringement allegation is here limited to claim 1.

The subject-matter of the patent in suit pertains to electric heaters of the reflector type in which radiant energy, generated electrically, is reflected in a single direction in what is characterized in the evidence as a beam, and heaters of that character are designated in the evidence as beam heaters.

This suit was tried in the lower court upon the assumption by the plaintiff that the inventor of the subject-matter of the patent in suit was a pioneer in the beam-heater art and that the patent is entitled to such broad interpretation as is generally and properly accorded to one covering a pioneer invention.

Before discussing this unfounded assumption, in detail, a general review of the prior art set forth in the record and certain common-knowledge material, of which the Court will take judicial notice, will be useful.

GENERAL PRIOR ART.

The art of generating radiant energy and reflecting it in a beam of rays having some approximation to parallelism is very old, it being a matter of common knowledge that searchlights, railway-locomotive headlights and automobile headlights have for many years utilized this principle of beam reflection to project ra-

diant energy along a single path or upon a single person or object or upon a relatively small group of persons or objects.

The general art of generation and projection of radiant energy is further exemplified by so-called flood-lighting which consists in projecting a beam of reflected light upon an object or a relatively small space which is to be illuminated, and this branch of the art, which has been practiced for a considerable number of years, culminated in the extraordinarily successful illumination of the buildings of the Panama-Pacific Exposition in San Francisco in 1915.

Although the reflection and projection of radiant energy in the relations and by the means just mentioned was practiced for the purpose of illumination, the laws of operation were the same as those governing and controlling the radiation and projection of energy rays for the purpose of heating a circumscribed space or a definite object, and, as stated by defendant's witness, Beam, the commercial production of light without the attendant production of heat has never been accomplished. (pp. 71 and 72 Rec.)

The projection of reflected radiant energy in a beam for the illumination of an object or a defined space by a searchlight; a similar illumination of a defined and limited path by a locomotive or automobile headlight, and the projection of reflected energy rays in a beam to heat a person or an object are all effected by combustion or by electrical resistance and a concavo-convex reflector.

Devices pertaining to the particular branch of the art represented by the patent in suit are characterized by portability, which obviously demands devices of compact form and light weight in order that they may be moved from place to place in an office or room of a residence and may be readily transported from one office to another or from one room or residence to another and be so designed and constructed as to be utilizable in electrical systems of distribution the primary purpose of which is illumination.

By reason of the necessity for portability and utilization by connection to electric-lamp sockets, these devices necessarily embody, as energy-generating elements, electrical conductors of high resistance so located in front of the reflecting surface as to insure a maximum degree of reflection in a single direction. These essential functions pertained to prior-art devices, as will be shown by later references to the record.

SPECIFIC PRIOR ART.

The reflection of electrically-generated radiant energy, in a beam, for utilization as heat, so far as the record of this case is concerned, began with the Morse patent No. 881,017, granted March 3, 1908, (Defendant's Exhibit F) which discloses an incandescent lamp as a heat-producing device and a spherically curved reflector for the heat rays generated by resistance of the lamp filament. The device of this Morse patent unquestionably generates heat which is reflected in a

beam against an object, or a portion of an object, to heat the same.

Later applications of the principle of beam reflection of radiant energy for the purpose of heating definite objects or spaces were made in England. Several manufacturers designed, manufactured, extensively advertised, and presumably sold, heaters of this general type, as is shown by defendant's exhibits 1, 2, 4, 5, 6, 7, 8, 9, 10, 11 and 12 and British patent No. 19,971 of 1913.

Specific discussion of the above-mentioned exhibits will be undertaken later.

At about the same time, or a little earlier, the defendant manufactured and sold heaters having a similar function and pertaining to the same field of use, these heaters being shown and described in defendant's exhibit G and being exemplified by defendant's exhibit M.

Another early development of the beam heater is represented by the Warner United States patent No. 1,120,003, granted December 8, 1914, upon an application filed August 7, 1913 (Defendant's exhibit H). Further consideration and discussion of this patent will be undertaken later.

The next activity in the development of beam heaters appears to have been that of the plaintiff in this suit or of its assignor, one Milton H. Shoenberg, who, on February 3, 1914, filed an application for letters patent which were issued to the plaintiff on September 1, 1914, bearing No. 1,109,551. (Defendant's Exhibit I).

The Shoenberg patent apparently marks the entry of the plaintiff into the electric-heater or radiator field and is the principal patent under which it has operated since entering that field, reflecting radiant heaters manufactured and sold by the plaintiff since the date of that patent having been marked with that date.

The plaintiff's activity in the electric-heater field prior to the date of application for the patent in suit is represented by defendant's exhibits A, B, C, D and E.

Exhibits A, B and D represent devices manufactured and sold by the plaintiff more than two years before the application for the patent in suit was filed, and exhibit C represents devices manufactured and sold between one and two years prior to such date.

SCOPE OF PATENT IN SUIT.

In view of the period of time covered by the evolution of the beam heater, it would naturally be expected, as the facts show, that the patent in suit, application for which was filed on July 10, 1917, would cover merely structural details constituting actual or alleged improvements upon devices of the same class that preceded it in the art.

It is well understood that interpretation of the claim of a patent, which defines the metes and bounds of the domain from which the public is excluded by the government grant to the patentee, is to be interpreted first, by the drawing and specification of the patent; second, by the admissions or commitments of the ap-

plicant during the prosecution of his application in the Patent Office, and third, by the prior art, as represented by public use, patents, both domestic and foreign, and printed publications, both domestic and foreign.

Turning to the specification of the patent in suit, we find, in lines 9 to 17, the following statement:

“This invention relates to electric heaters in which the heat waves are generated by a resistance coil or heating unit and are then reflected from a highly polished surface.

One of the main purposes of my invention is to provide an electric heater or radiator in which the highly heated portions are enclosed by protecting members, but one readily accessible for examination or repair.”

This is a statement of the patentee's invention and is strictly in accord with what one would expect to find, in view of the well-developed state of the art, as shown by defendant's exhibits, to which reference has already been made.

The specification nowhere mentions or suggests any purpose or function for his contribution to the art represented by “electric heaters in which the heat waves are generated by a resistance coil or heating unit and are then reflected from a highly polished surface” except *protection of the highly heated portions and accessibility for examination and repair*.

It is apparent from the above-quoted statement that the applicant for the patent in suit or his attorney, or both, recognized that the main and essential elements of the device for which a patent was sought were old

in the art and, consequently, no attempt was made to cover the device broadly.

In the use of the earlier heaters manufactured and sold by the plaintiff, the reflectors became objectionably, and perhaps dangerously, hot in service, and, consequently, the applicant for the patent in suit sought to protect the user of the device from injury by providing a casing 3 and spacing it from the reflector 1 to form a dead-air space through which no appreciable amount of heat would be transmitted.

As a further protective means, the applicant added a broad peripheral rim or flange 3a, to the outer edge of which the cage or guard wires 23 were fastened. The flange 3a, being an integral part of the casing 3, cooperates with it and with a wire cage of the prior art to afford such protection that accidental contact with the heated surface of the reflector is rendered impossible.

THE CLAIM.

Claim 1 of the patent in suit, upon which the plaintiff relies, contains the following elements:

1. A concavo-convex reflector, designated by the numeral 1 in the drawing.
2. A heating unit supported at substantially the focus of said reflector, designated by the numeral 7 in the drawing.
3. An annular member extending outwardly from the margin of said reflector, designated by the numeral 3a in the drawing.

4. A protective cage having guard wires arched between opposite sides of said annular member, designated by the numerals 23, 24, 25, 26 and 27.

The four elements in the claim must have added to them, by implication, a supporting means and electrical connections for the heating unit, but, as such elements pertain to all electrical heaters, it is immaterial to interpretation of the claim whether or not they are specifically mentioned.

Referring specifically to the reflector, the specification is silent as to its specific form, but, as shown in the drawing, it appears to be of parabolic curvature and the statement that the heating unit is supported at substantially the focus of the reflector would seem to limit the reflector to a parabolic form, inasmuch as a reflector of any other form would not have a focus in which the heating unit could be located.

Obviously, the focus of a reflector of parabolic contour is a point and, consequently, a heating unit of substantial dimensions cannot actually be located at the focus, but it appears from the testimony of plaintiff's witness Henry that the significance of the statement in the claim, that the heating unit is supported at substantially the focus of the reflector, is that the actual focus is within, and substantially at the central point of, the heating unit, so that the unit is located as nearly at the focus as is possible for a device having substantial dimensions.

The annular member extending outwardly from the margin of the reflector is unmistakably and unquestion-

ably the portion designated in the drawing by the numeral 3a, the function of which is stated in the specification as follows:

“In order to prevent the outer exposed edge of the heater from being heated, I provide the casing with a marginal annular flange 3a”.

It will be noted by reference to the certified copy of the file wrapper and contents of the application for the patent in suit, constituting defendant's exhibit O, that the Patent Office Examiner was, to some degree at least, in doubt as to the element designated by the words in claim 1 as “an annular member extending outwardly from the margin of said reflector” and, therefore, made inquiry of the applicant's attorney on this point. The response made by the attorney was that the element in question is the annular flange 3a, which then and thereafter constituted a commitment by the patentee to this interpretation of the claim, so far as the element in question is concerned.

The only limitation imposed upon the fourth element of the claim is that the guard wires of the protective cage shall be “arched between opposite sides of said annular member”. Although this language is not accurately descriptive, it is apparently intended to mean that the ends of the wires of the protective cage are attached to the outer edge or rim of the annular member 3a, as shown in the drawing.

It follows from the foregoing analysis of the patent and the history of the application therefor that, apart from the prior art, claim 1 is necessarily limited to a

structure comprising (1) a concavo-convex reflector, (2) a heating unit supported at substantially the focus of the reflector, (3) an annular flange extending outwardly from the margin of the reflector to protect the user of the heater and people and objects in proximity thereto from becoming burned by contact with the heated surface, and (4) a protective cage comprising guard wires the ends of which are attached to the outer rim or margin of the annular protective flange 3a.

**PLAINTIFF IGNORES INHERENT LIMITATIONS AND DEFECTS
OF PATENT IN SUIT.**

Counsel for plaintiff, having a definite realization of the hopelessness of his case, so far as infringement is concerned, provided the patent in suit is given no broader interpretation than its language warrants, attempts to enlarge its scope by substantially ignoring its specific disclosure and terms, as well as the prior art. He attempts to give the subject matter of the patent a fictitious value by repeatedly and vehemently asserting that the patentee was the first to realize, disclose, and embody in concrete form, a means for projecting a solid beam of heat, thus creating an atmosphere which does not belong to the subject matter of the patent in suit.

Counsel for plaintiff pleads first for a broad and liberal interpretation and, as an alternative, if denied such interpretation, one which accords to his client the benefit of the doctrine of equivalents.

It has already been shown that the specification of the patent and its claim 1, even though the prior art be neglected, preclude the patentee from a broad and liberal interpretation.

Whether or not the patentee is entitled to the benefit of the doctrine of equivalents is a moot question here because the defendant's device has no part which corresponds, in structure or function, to the annular member 3-a of patent in suit.

The turned-over edge of defendant's reflector is an equivalent of an element of the patented device, but that element is the turned-over edge of the reflector 1, which rests upon, and is fastened to, the member 3-a. In other words, so far as the present suit is concerned, the question of equivalency does not and cannot arise.

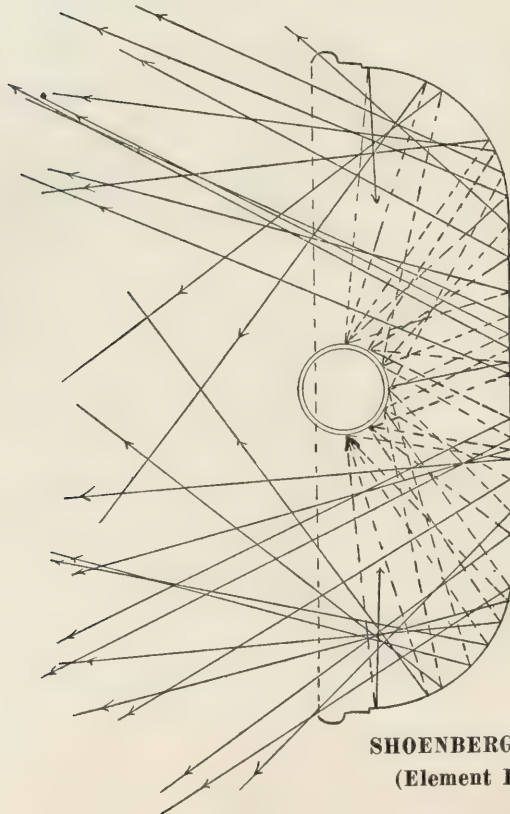
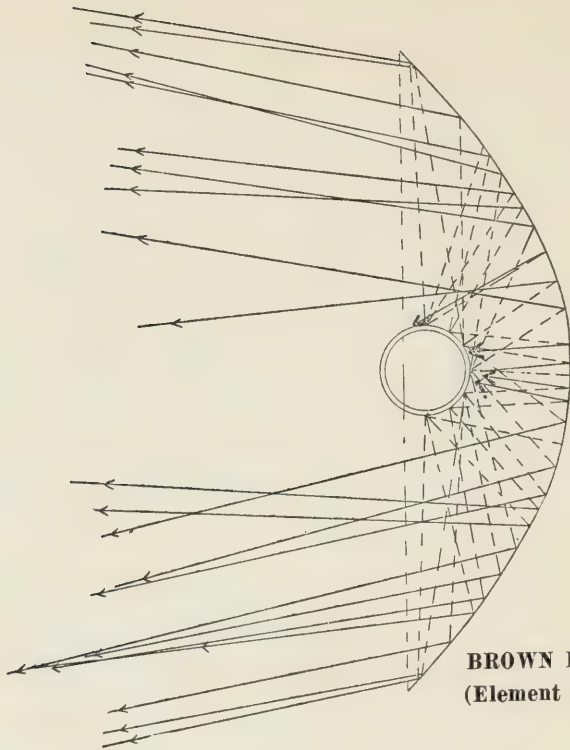
We express no opinion as to the right of the patentee to the benefit of the doctrine of equivalents because the question is not pertinent in the instant case.

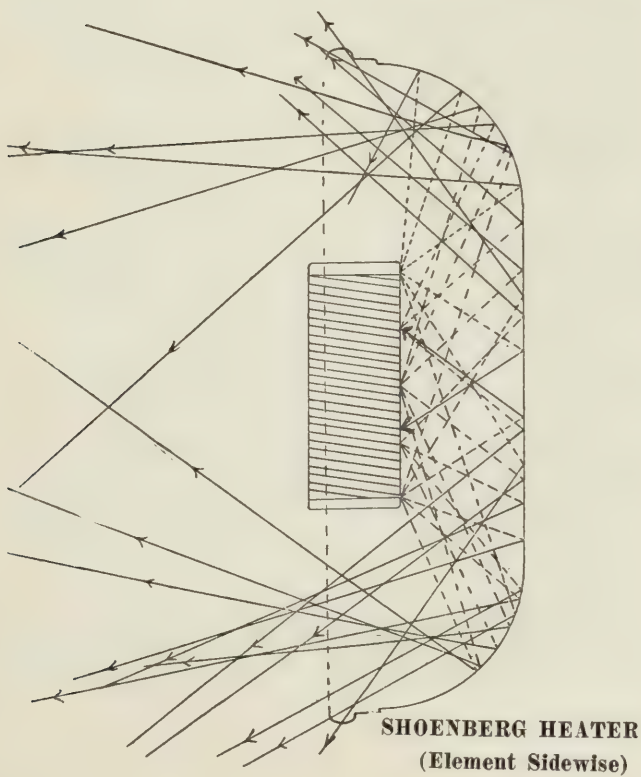
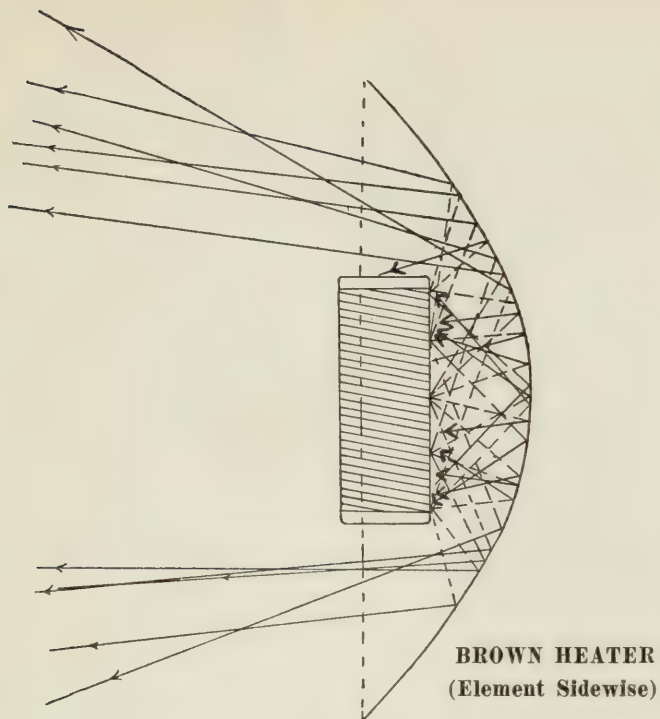
Counsel for plaintiff presents his case for consideration by this court upon the assumption that the heating unit and the parabolically curved reflector co-operate to produce a cylindrical shaft or beam of heat and has presented, on each of pages 13 and 47, a diagram for the purpose of substantiating such assumption. This diagram is grossly misleading and, therefore, fails as a graphic demonstration; first, because it assumes that the energy or heat waves emanate from a single point instead of from a large number of circumferentially disposed points, and further, because it ignores the length of the cylindrical heating unit.

It must be borne in mind that the heating unit of the patent in suit is a cylinder, the active portion of which is a wire helix and that every portion of the helix emits heat rays, *at least one-half of which radiate from the front side of the unit into the atmosphere without impinging upon any portion of the reflector.* These rays, which are projected into space fan-wise, obviously constitute no part of a cylindrical or approximately cylindrical beam, since they are subject to no directive influence.

A considerable percentage of the rays which emanate from the rear portion of the heating unit will be reflected directly back against that unit, and the other portions, which are intercepted by the reflector surface, will be reflected in a great variety of directions because they are emitted from innumerable points of approximately one-half of a helix which extends at right angles to the axis of the reflector and no two of which are located the same distance from the reflector surface or in an otherwise symmetrical relation thereto.

We have shown on pages 14 and 15 of this brief two diagrammatic representations of the heating unit, the reflector and some of the heat rays in the plaintiff's No. 7 heater in one of which the heating unit is shown in end-wise relation and the other in side-wise relation to the observer. Two like views, illustrating the Shoenberg or Majestic No. 2 heater, are presented in order that the two devices may be compared, as regards the distribution of the reflected heat rays.





Our illustrations are obviously incomplete in the sense and to the extent that only a small number of rays is represented, but those shown are sufficient to illustrate the operation, and a material increase in the number would serve merely to increase and accentuate the deviation from that uniform and symmetrical relation which counsel for plaintiff alleges pertains to the No. 7 heater, and which his diagrams on pages 13 and 47 purport to illustrate.

The diagrams which we present are drawn in accordance with the well-known physical law that the angle of incidence and the angle of reflection are equal and, consequently, insofar as the operation of the device may be indicated by a relatively small number of lines, such operation is indicated by such diagrams.

In this connection, the attention of the court is invited to testimony of plaintiff's witness Henry appearing on page 55 of the record, as follows:

"In case of exhibit 5 (defendant's heater) the beam which is thrown out at any point in its cross section will be substantially circular and of equal intensity at the same distance, and direction from the axis of the reflector curvature, whereas in exhibit 2 (plaintiff's No. 7 heater), due to the manner in which the heat element is placed transversely with respect to the axis of the reflector, but, nevertheless, enclosing or containing within itself the focus of the reflector, its beam will be laterally divergent or spread out sideways more than in the case of the beam from exhibit 5."

It will be apparent from an examination of the two sets of diagrams that the transverse disposition of the

cylindrical heating unit with reference to the reflector actually gives better results in the number 2 device, mainly because the heating unit is substantially parallel to the reflecting surface immediately behind it, whereas in the No. 7 heater there is no symmetrical relation between the surfaces of the heating unit and the reflecting surface behind such unit.

As has already been noted, all of the four elements enumerated in claim 1 were not contributed to the art by the patentee Brown. It remains to determine which, if any, of these elements were contributed by him.

PRIOR PATENTS, PUBLICATIONS AND DEVICES.

In general, defendant's exhibits speak for themselves and require no material explanation or interpretation, but, in view of certain criticisms made by counsel for plaintiff in his brief, we desire to comment briefly in reply.

Porter patent No. 684459 (defendant's exhibit N). This exhibit has significance only in the sense and to the extent that it discloses an electric heater *having a protective wire cage of arched form.*

The Morse patent No. 881,017, granted March 3, 1908 (defendant's exhibit F), discloses a concavo-convex reflector 1, a heating unit 4, supported in such relation to the reflector as is demanded by the claim, provided the reflector of the patent in suit is not limited to parabolic curvature, a pad or rim 2, which is "an annular member extending outwardly from the margin of the

reflector” if the claim is to be given the broad construction demanded by the plaintiff, inasmuch as the specification of the patent states, with reference to this feature, “this pad is made of soft material which is adapted to protect the body from contact with the heated edge of the shell”, and a protective cage in the form of a screen 5 “of coarse-wire mesh or similar construction”.

It follows, therefore, that the Morse patent discloses a reflecting electric heater having the same number of elements as are enumerated in claim 1 of the patent in suit, severally performing similar functions.

The attack made by counsel for plaintiff upon this exhibit is hardly warranted by the facts, inasmuch as the filament of an incandescent lamp, when in operation, emits heat as well as light and is utilized in the structure shown in the Morse patent as a heating unit, and the cylindrically curved shell 1 is utilized as a reflector of the generated heat.

It is alleged that the word “reflector” is not used in the specification, but that fact is no justification for alleging that the concavo-convex shell is not a reflector. The specification of the patent, on lines 45 to 49, states “When the electric light is turned on, the heat developed within it is *reflected* downwardly by the shell 1 toward the surface of the body against which the lower edge of the shell rests.” (Italics ours.)

The statement of counsel that the “Morse device does not exhibit the principle of reflecting radiant energy in the shape of a beam against an object for

the purpose of heating the same" is entirely without warrant.

The heater shown in Geiger patent No. 1,194,168, (defendant's exhibit G), and represented by defendant's exhibit M, embodies a concavo-convex reflector, two heating units, which are so located with reference to the reflector that the heat generated by them is reflected in one direction only. In other words, the Geiger device is a portable electric heater having a polished reflector to project the generated heat in a single direction to heat a single object or person or a small group of objects or persons, and many of these heaters were manufactured and sold prior to the advent of plaintiff's No. 7 heater.

A radiant electric heater, called the "Ferranti Fire" is described in defendant's exhibit No. 1, a portion of the description being as follows:

"a circular bowl of polished copper which concentrates and reflects the heat rays. Like the Bastian heater, the greater part of the energy is given out as convected heat but there is considerable radiant energy, and owing to the reflecting properties of the bowl this can be distinctly felt at a distance of many feet. It has much the appearance of a red-hot fire, hence its name, and its effect is much the same."

The heating unit is described as

"A closely wound spiral disk of nichrome or similar tape, interleaved with mica (a modified variety of the old Ferranti winding), and held in close contact with a circular plate of quartz glass six inches in diameter."

This device, therefore, comprises a concavo-convex reflector and a heating unit which bears a relation to the reflector which corresponds substantially to the relation of the heating unit to the reflector of the patent in suit.

It is further stated that "It would be an obvious improvement to protect the disk by a suitable form of guard".

The Ferranti Fire is described also in defendant's exhibit No. 2, a portion of the description being as follows:

"A new style of electric heater has lately been introduced in which a circular plate of quartz glass is caused to glow at a bright red by contact with a spiral resistance unit in front of which it is clamped. By means of a bowl-shaped copper reflector surrounding the heating surface, and carried on trunnions, the heat rays can be focussed in any desired direction."

and, further,

"It would be a simple matter to protect the heated disc by the use of a guard of expanded metal or a wire netting with large mesh. Neither method need detract from the appearance of the heater nor reduce its efficiency, and both could be made detachable so that the disc could be used for water boiling as at present. The guard could be clipped round the flange which surrounds the quartz disc, *or it could be secured to the outer edge of the copper reflecting bowl*". (Italics ours)

Defendant's exhibit No. 4 illustrates and describes the Ferranti Fire. Attention is specifically directed to a portion of the descriptive matter as follows:

“It will be seen that the heating element is mounted in the centre of a polished brass or copper reflector, which, being supported on bearings, is capable of rotation through 180 degrees.”

and, further,

“An ornamental ring, seen in Fig. 184, covers the joint between the element and the reflector, and secures a wire guard when necessary.”

In defendant's exhibit No. 11 appears a further description of the Ferranti Electric Fires in which reference is made to the large reflecting bowl, the color scheme of which gives an appearance of warmth, etc.

In defendant's exhibit No. 12 is illustrated an example of the Ferranti Electric Fire, as to which no specific mention is necessary except to call attention to the smaller figures of the cut.

Defendant's exhibit No. 3 embodies a cut of a device for generating and reflecting radiant energy that is primarily intended for lighting purposes. The device embodies, however, a concavo-convex reflector having a rim or bead around its edge to which is attached a wire protective cage corresponding substantially to that of the patent in suit and having a heat and light-generating unit located in front of the reflector.

Defendant's exhibits Nos. 5 and 7 illustrate and describe a so-called “Calor” electric fire comprising an electric heating unit and a reflector of bowl-shape which has a flat peripheral flange projecting from its edge.

Attention is particularly directed to the cut of exhibit No. 7 designated as “Fig. 3—Pedestal Type

'Calor' Fire'', especially as illustrating a device that embodies an electric heating unit, a concavo-convex reflector having an annular member extending outwardly from its margin and a supporting stand of the desk-telephone type.

Defendant's exhibit No. 6 illustrates and describes a so-called "Redglo" fire embodying an electrical heating unit, and a bowl-shaped reflector having a peripheral flange extending outwardly from the edge of its curved portion.

Defendant's exhibits Nos. 8 and 9 and British patent No. 19,971 of 1913 illustrate and describe a radiant or beam heater manufactured by Simplex Conduits, Limited, of London, and designated as the "Plexsim" electric fire.

It will be noted that the Plexsim heater is illustrated and described as definitely and distinctly a beam heater in which the heat is generated by a cylindrical coil of wire and is reflected from a polished copper surface in approximately straight lines, as a beam.

The subject matter of this Simplex English Patent 19,971 of September 4, 1913, which is further illustrated in defendant's exhibit No. 9 and on page 24 of the brief for plaintiff, is criticised at length on various grounds, but mainly because it does not project a perfect, or approximately perfect, beam of heat, notwithstanding the fact that the specification of the patent alleges that the heat issues from the device in the form of a condensed beam of rays.

It is apparent that, inasmuch as the heating unit is located entirely within the reflector and has a longitudinal axis that is coincident with that of the reflector, a negligible portion of heat rays will be projected into the atmosphere without impinging upon the reflector surface.

Although the reflected heat rays may not all be projected in such manner as to constitute a cylindrical beam, there is little, if any, room for doubt that the criss-crossing and consequent interference of rays will be little, if any, more serious than in the Brown No. 7 device.

The language of the specification, portions of which are quoted on pages 29, 30 and 31 of the brief for plaintiff is criticised as vague and indefinite. To whatever, if any, extent the specification is open to criticism, the fact remains that we are here dealing with things, rather than words and the thing which we are considering is very definitely disclosed in this patent and also in defendant's exhibits 8 and 9.

The statement by counsel that the Simplex English patent is apparently "nothing more than a mere paper patent" is entirely without justification, in view of defendant's exhibits 8 and 9, which describe the subject matter of this patent as being on sale in England and available for purchase and use by those desiring such devices.

The device illustrated in each of Figs. 14 and 17 of defendant's exhibit 15 embodies light and heat-generating units, a concavo-convex reflector and a protective

cage the ends of the wires of which are fastened to the rim of the reflector.

Defendant's exhibit No. 16 contains a cut of one of plaintiff's No. 2 heaters, defendant's exhibit B being one of these heaters.

The Shoenberg patent comprises a concavo-convex reflector, a heating unit of the same type and form as that of the patent in suit and supported as nearly at the focus of the reflector as is the unit of the patent in suit; the reflector is supported within, and spaced from, a protective casing which has a projecting flange or rim, and guard wires are provided the ends of which are attached to the flange or rim of the protective casing.

With reference to the reflector, the specification of the Shoenberg patent states (p. 1, lines 48 to 53)

"The reflector consists preferably of a highly polished metal shell 1, which is somewhat hemispherical or dome-shaped and serves to reflect the heat waves received from the heater and direct them outwardly from its inner concave surface."

The specification states further (p. 2, lines 9 to 17)

"The coil of the heating element is made of bare wire of high resistance which becomes very hot and I therefore provide guard wires 14, which cross and have their ends secured in apertures in the rim of the reflector. These guard wires serve not only to prevent any inconvenience by accidental contact with the hot wires, but also to protect the heater unit from injury."

There is no escape from the conclusion that the Shoenberg patent discloses every element of claim 1 of

the patent in suit, combined and operating in the same manner and to perform the same functions, the only difference being that the reflector of the Shoenberg patent differs in form from that shown in the patent in suit, as does also the peripheral rim or flange of the protective casing. Nevertheless, the reflector of the Shoenberg patent is concavo-convex, the heating unit is supported in the same relation to the reflector as in the patent in suit, the rim or flange extends outwardly from the margin of the reflector, and the guard wires of the protective cage are "arched between opposite sides of the annular member," as will be seen by reference to Fig. 10 of the drawings of the patent.

In Fig. 2 of the drawings of the Shoenberg patent, the reflector is shown as provided with a flange or annular member having the same location and general relations as the member 3a of the patent in suit except that the forwardly projecting portion or rim is wider than the portion projecting laterally whereas, in the patent in suit, the laterally projecting portion is materially wider than the forwardly projecting portion at its outer edge.

In each case, the wires of the protective cage are attached to the outwardly projecting annular portion and are "arched between opposite sides of said annular member". In other words, the only difference between the annular members in the two cases is in relative dimensions.

The protective cage of the patent in suit obviously differs from that of the Shoenberg patent in compris-

ing a relatively large number of arched guard wires but plaintiff is barred from any benefit in this regard because exactly this form of protective cage is embodied in each of the heaters 1, 2, 2b and 3, represented by defendant's exhibits A, B, C, D and E.

This Shoenberg Patent 1,109,551 (defendant's exhibit I), under which plaintiff has been operating for several years and the date of which has been placed upon all of the recent No. 7 heaters which it has manufactured and sold, is now discredited and this court is asked to believe that its subject matter is not only inefficient, but substantially inoperative for all practical purposes, the assertion being made that its subject matter belongs "in the category of unsuccessful, impractical, and abandoned experiments". (See page 23 of plaintiff's brief.)

On each of pages 22 and 47 of the brief for plaintiff is depicted what purports to be an illustration of the reflective characteristics of the Shoenberg device, as exemplified in the Majestic No. 2 heater (defendant's exhibit B). In these diagrams the actual operating characteristics are overlooked or deliberately ignored, in that the heat rays are indicated as emanating from a point, whereas they actually emanate from innumerable points of the wire helix which constitutes the active portion of the heating unit.

As in the Brown heater, an alleged illustration of which is also presented on page 47, at least one-half, and probably more than one-half, of the generated heat rays will be projected fan-wise outwardly into the atmosphere without impinging, in any manner or

degree, upon the reflector surface, and those which emanate from the inner portion of the helix are projected against the reflecting surface from so many different points and at so many different angles that the sum of the reflected rays will, of course, not constitute a true beam of heat, but they will nearly, if not quite, as closely approximate such beam as will the Brown device. This is largely true because the axis of the cylindrical heating unit is substantially parallel to the portion of the reflector in front of which it is directly located. Whereas, in the Brown device, the ends of the cylindrical heating unit are much nearer to the reflecting surface immediately back of them than is the middle portion to the central portion of the reflector, and the intermediate distances vary from the middle toward the ends.

If any patentable novelty attaches to the protective device of the patent in suit, which defendant does not admit, *it must reside in the specific form and dimensions of the part 3a*, inasmuch as the protective casing is found in the Warner patent No. 1,120,003 and a protective pad or rim 2 is disclosed in the Morse patent No. 881,017.

It is a more than liberal grant of credit as an inventor to accord to the patentee Brown the right to exclude others from the use of a protective annular flange, in view of the structure of the Morse patent and that of the Shoenberg patent, that of the "Calor" fire device illustrated in defendant's exhibits 5 and 7 and that of the "Redglo" device illustrated in defendant's exhibit 6.

It will be noted further that the Warner patent No. 1,120,003, a copy of which constitutes defendant's exhibit H, discloses a radiant electric heater embodying a concavo-convex reflector, a heating unit and a protective wire cage, all supported upon a stand of the familiar desk-telephone type.

Although the reflector of the Plexsim device, disclosed in defendant's exhibits 8 and 9 and British patent No. 19,971 of 1913, is not shown as provided with an annular flange, the structure has all of the other elements of claim 1 of the patent in suit and, in the illustration of exhibit No. 9, the protective cage is similar to that of the patent in suit.

The subject matter of Warner Patent 1,120,003 (defendant's exhibit H) is a heater which pertains to the same class as does the subject matter of the patent in suit and, whatever may be its degree of efficiency as a radiant or reflecting heater, it has all the elements of the device set forth and claimed in the patent in suit, except the broad marginal flange for the protective casing, and it has a reflector provided with a turned over edge of substantially the same form as the corresponding element of defendant's reflector.

No allegation of inefficiency can serve to make the Warner device anything but what it is, as shown and described in the patent.

Defendant's exhibit J was made in conformity to the illustration of exhibit No. 9 except that its reflector was parabolically curved and provided with a smooth

reflecting surface, in accordance with the disclosure of British patent No. 19,971 of 1913, a certified copy of which is in evidence.

It will be noted that, in lines 20 and 21 of page 2 of the specification of the British patent No. 19,971, it is stated that the reflector may be "the frustum of a cone, or of parabolic configuration", and that in lines 25 to 29, page 3, it is stated

"We have found that a diameter at the large end approximately equal to the depth of the cone gives good results, but the cone angle may be greater or less than that so indicated, or the reflector may be, in longitudinal section, in whole or in part of parabolic or the like contour, according to the form desired for the emergent beam of rays."

Edmund N. Brown had *constructive* knowledge of all that the prior art contained when he filed his application for the patent in suit and he had *actual* knowledge of the Shoenberg patent and the Majestic Nos. 1, 2, 2b and 3 heaters.

It will be noted that plaintiff's earlier heaters, represented by defendant's exhibits A. B. C. D and E. embody elements the same in number, form and location as those shown and described in the patent in suit, namely, a supporting base and standard, a concavo-convex reflector, an electrical resistance coil of tubular form, mounted upon an insulating tube and disposed transversely to the axis of the reflector and in front of it and a wire guard or cage disposed in front of the heater and reflector for the purpose of protecting the user or

anyone in proximity to the device from becoming burned by contact with the heater element or with the heated reflecting surface.

ALLEGED FAILURE AND ABANDONMENT OF EARLY DEVICES.

The brief for plaintiff characterizes the Majestic heaters 1, 2, 3, 1b, 2b and 3b, four of which are exemplified in defendant's exhibits A, B, C and D and three of which are illustrated in the photograph of the Majestic Company exhibit at the Panama-Pacific Exposition, constituting defendant's exhibit E, as unsuccessful experiments and as failures. There is no evidence in the record to support such characterizations and, in fact, the evidence discredits and disproves them.

The devices which were manufactured and sold extensively over a considerable period of time and exhibited at the Panama-Pacific Exposition as commercial products were not experiments and cannot be construed to be such, and there is no item of evidence in the record to the effect that the devices in question were unsuccessful or were failures.

The only sense in which abandonment enters into the case, so far as the devices in question are concerned, is that manufacture of these earlier devices was discontinued after manufacture of the No. 7 devices was begun.

Public sale or use of an invention forever debars another subsequent inventor from securing a valid patent thereon, and no valid patent can be issued upon an application filed by the original and first inventor more than two years after public sale or use occurs.

In the present case, it is immaterial that the heaters Nos. 1, 2, 2b and 3 were manufactured and sold by the plaintiff, instead of by some other party, inasmuch as the patent in suit covers an alleged invention made by one Edmund N. Brown who had no connection with, or relation to, the design of the said heaters Nos. 1, 2, 2b and 3.

The brief for plaintiff alleges that all devices of the portable electric heater type, which were manufactured and sold prior to the advent of the No. 7 Majestic heater were abandoned and the manufacture thereof discontinued upon the appearance of the No. 7 heater. There is no evidence in support of these allegations; so far as the record shows, the heaters shown and described in defendant's exhibits 1, 2, 4, 5, 6, 7, 8, 9, 10, 11 and 12 are still being manufactured and sold in England and, furthermore, heaters represented by defendant's exhibit M are still being sold by the defendant.

The brief for plaintiff states, on page 62, that "the lower court conceded that if the claim were entitled to a liberal construction infringement would follow." We do not admit that the lower court made any such concession. The opinion did state in substance that infringement could not be found unless the patent was given a broad construction, but there was no finding to the effect that, in any event, the construction could or would be such as to either necessitate or justify a finding of infringement.

The brief states, on page 62 and again on page 64, that it cannot be denied that the defendant's heating unit is supported substantially at the focus of the reflector.

We traverse that statement and deny that the defendant's heating unit is so supported.

Counsel for plaintiff states, on page 71 of his brief, that the Edison Electric Appliance Company, "took out a license and is now operating under the license". This statement has no support in the evidence and has no proper place in the presentation of the present appeal to this court. Further, counsel's allegation that certain other manufacturers have "put infringing devices upon the market", has no adequate support in the evidence and is therefore merely an expression of opinion by counsel which has no proper place in presentation of the present appeal to this court.

The statement of counsel that the opinion of the trial court concedes the validity of the patent in suit (page 76 of brief) is not justified by the facts. The trial court found non-infringement and, so finding, elected not to go further and determine the matter of validity or invalidity of the patent in suit. It is problematical and beside the question as to what ruling the court would have made on the question of validity if it had been found necessary to pass upon that question.

NO EXCLUSIVE RIGHT BECAUSE OF COMMERCIAL ACTIVITY.

The vigorous and persistent attempt by the plaintiff to establish an exclusive right to the commercial field occupied by radiant electric heaters of the beam type by way of evidence as to the period and extent of its own commercial exploitation of its No. 7 heaters is

unwarranted because based upon the fictitious assumption that the commercial success attendant upon the manufacture and sale of No. 7 heaters was due to the novelty and efficiency of that device and the further fictitious assumption that competitors of the plaintiff entered the field because of the popularity achieved by the No. 7 heater.

If any claim for patentable novelty is to be based upon evidence of large sales, relationship of invention to volume of sales must rest upon something more tangible than conjecture.

The Courts are rarely willing to accept evidence of commercial popularity as evidence of invention and will never do so unless the question of invention is one of grave doubt.

On this point the Supreme Court said, in *McClain v. Ortmyer*, 141 U. S. 419:

“That the extent to which a patented device has gone into use is an unsafe criterion, even of its actual utility, is evident from the fact that the general introduction of manufactured articles is as often affected by extensive and judicious advertising, activity in putting the goods upon the market and large commissions to dealers, as by the intrinsic merit of the articles themselves. * * * If the generality of sales were made the test of patentability, it would result that a person, by securing a patent upon some trifling variation from previously known methods, might, by energy in pushing sales, or by superiority in finishing or decorating his goods, drive competitors out of the market, and secure a practical monopoly without in fact having made the slightest contribution of value to the useful arts. * * * While this court has held in a number of cases * * * that in a

doubtful case the fact that a patented article had gone into general use is evidence of its utility, it is not conclusive even of that; much less of its patentable novelty.”

The Court affirmed this ruling in *Adams v. Bellair Stamping Co.*, 141 U. S. 539, and *Duer v. Corbin Cabinet Lock Co.*, 149 U. S. 216, and the District Courts and Circuit Courts of Appeal throughout the United States have made similar rulings in many reported cases some of which have been in the Ninth Circuit, *Klein v. City of Seattle*, 77 F. R. 200, *American Sales Book Co. et al. v. Bullivant*, 117 F. R. 255, and *Hyde v. Minerals Separation, Limited, et al.*, 214 F. R. 100, being notable examples.

In view of the general recognition given by the courts to the principle enunciated by the Supreme Court in *McClain v. Ortmyer*, supra, further citations from the many published opinions appear to be unnecessary.

As a matter of fact, the commercial use of plaintiff's No. 7 heater was due to extensive advertising, both by the plaintiff and by its competitors, as shown by the testimony of Edmund N. Brown, the patentee, pages 118 and 119 of the record, to the effect that the Hotpoint Company; The Simplex Heating Company; Landers, Frary & Clark, the Rutenber Electric and Manufacturing Company; the Estate Stove Company, and the Westinghouse Company all advertised very liberally.

The increase in the sale of the No. 7 heater over that of its predecessors was undoubtedly also due, in great measure, to the fact that it was of larger size and was provided with a reflector of burnished copper, both of which features made it more striking and attractive in appearance than its predecessors.

In addition, the exploitation of the No. 7 heater was substantially coincident in point of time with the freeing of the plaintiff from restriction of its activities by the obtaining of a license under the Marsh patent on nickel-chromium wire, as set forth in the following paragraphs:

IMPORTANCE OF NICKEL-CHROMIUM WIRE.

The record in this case shows that wire composed mainly of nickel-chromium alloy is the only available material which can be utilized to operate at an incandescent temperature in the open air without destruction or rapid deterioration, and that this material is covered by a certain Marsh patent under which all manufacturers of electrical heating devices and apparatus are operating as licensees.

Although the Nos. 1, 2, 2b and 3 heaters manufactured and exploited by the plaintiff prior to the production of its No. 7 heater embodied heating units which constituted infringements of the Marsh patent, during the period of manufacture and sale of these earlier heating devices, the Marsh patent was in process of litigation against the General Electric Company. Shortly after the termination of the litigation, which resulted in sustaining the patent, the plaintiff secured a license and, at about that time or very shortly thereafter, it began the manufacture and exploitation of its No. 7 heaters.

It is also of record that the defendant undertook the exploitation of its heater which is involved in the

present suit as soon as it could do so after securing a license under the Marsh patent.

The allegation has been made that suitable material other than the so-called nichrome wire was available, and specific mention has been made of a material known to the trade as "Excello" wire. This allegation is true, so far as availability of material prior to the final decision in the suit based upon the Marsh patent is concerned, but it is without significance by reason of the fact that excello wire is a nickel-chromium wire and is, therefore, an infringing material. (p. 67 Rec.)

The fact that the plaintiff was willing to incur the risk incident to using nickel-chromium wire in its earlier heaters, prior to a final adjudication of the Marsh patent, may not properly be utilized as a basis for attack upon other manufacturers who did not care to incur such risk.

The substantial coincidence in time of the issuance of licenses under the sustained Marsh patent and the manufacture and exploitation of radiant or beam heaters by various manufacturers, including the increased exploitation by plaintiff, disposes of the contention on the part of the plaintiff that its No. 7 heaters established for it a commanding position in the field which was unwarrantably invaded by other manufacturers, including the defendant in this suit.

NO INFRINGEMENT.

It has been clearly and definitely shown that, notwithstanding the contentions on the part of the plaintiff that claim 1 of the patent in suit is entitled to a broad interpretation of such character as is accorded to a claim for a pioneer invention, the only features of possible novelty which were added by Brown to heaters Nos. 1, 2, 2b and 3 were a slight modification in the curvature of the reflector and the addition of a protective casing having an annular protective flange projecting laterally from its rim.

It has been noted that, by virtue of the location of the heating unit at substantially the focus of the reflector, the heating member is thus impliedly defined as of parabolic curvature and, in fact, the Morse patent, the Warner patent and the Shoenberg patent would seem to necessitate such limitation, provided the reflector itself is to be construed as having any novel form or characteristic.

The supplemental protective casing is disclosed in the Warner patent, and a protective rim in the Morse patent and, also, in the Shoenberg patent.

The defendant's structure obviously embodies a concavo-convex reflector, a heating unit supported in front of said reflector and a protective cage having guard wires the ends of which are attached to the margin or rim of the reflector, but *the device has no annular member extending outwardly from the margin of the reflector* and, therefore, it does not have and cannot have a protective cage the guard wires of which

are "arched between opposite sides of said annular member".

The designers of the defendant's heater secured all of the essential elements incorporated in the heater from the prior art which was also available to Brown when he made the alleged invention covered by claim 1 of the patent in suit and must be taken into account in construing that claim.

Defendant's device is shown and described in British patent No. 19,971 of 1913, and in defendant's exhibit 9, except as regards the form of the reflector and that of the protective cage.

It will be noted that the supporting member of the defendant's device embodies a base having a frame of U-shape between the arms of which the reflector is mounted upon trunions and that these parts correspond closely to like parts in the British patent.

It is to be noted, further, that, in the defendant's device, the heating unit comprises a supporting rod, an insulating cylinder on such rod and a coil of resistance wire disposed on the insulating cylinder, and that this unit is mounted in the axis of the reflector.

Corresponding parts, which differ only as regards the length of the unit, are disclosed in the British patent.

It is to be noted, further, that a more or less definite relation between the length of the heating unit and the depth of the reflector exists and, consequently, inasmuch as the designers of the defendant's heater elected to use a reflector of the form shown in the

Warner patent (defendant's exhibit H), they necessarily utilized a heating unit the length of which conforms to the depth of the Warner reflector.

The protective cage of the British patent was rejected as less desirable than other forms known in the prior art and, consequently, substantially the form of that shown in the Porter patent No. 684,459 of October 15, 1901 (defendant's exhibit N), was adopted.

Or it may be assumed that the designers of the Westinghouse heater had knowledge of the specific cage shown in defendant's exhibit 16, which was obviously available to anyone desiring to make use of that specific form of protective cage. The device shown in exhibit No. 16 is the Majestic Company No. 2 heater, as exemplified in defendant's exhibit B, the design of which had been abandoned to the public by commercial exploitation prior to the advent of plaintiff's No. 7 heater.

Plaintiff has based its claim of infringement mainly upon the allegation that the bent-over edge of the Westinghouse reflector is a functional equivalent of the annular member 3a of the patent in suit. This allegation has no basis in fact for the following reasons.

1. The edge of defendant's reflector is turned or bent over for the purpose of providing a stiffening or strengthening effect and ensuring a more finished appearance.

2. The turning over of the edges of devices of this character, whether sufficient to constitute a bead of approximately annular form in cross-section or partially,

as in defendant's device, is a common expedient in the art, as indicated, for example, by defendant's exhibits 3, 4, 15, A, B, C and D and H.

3. The turned over edge, being narrow and an integral part of the reflector, cannot possibly serve as a means for protecting users from injury by contact with the body of the reflector.

4. *The edge of the reflector 1 of the patent in suit is turned over in substantially the same manner and to the same degree as is the edge of defendant's reflector, this being clearly shown in Figs. 2 and 5 of the drawing of the patent in suit.*

The turned-over edge of the reflector of the patent in suit is no part of the "annular member extending outwardly from the margin of said reflector" and is not intended to be a part of it.

The reflector of the patent in suit is attached to the annular member 3a by means of three screws, as is clearly indicated in Figs. 1 and 2 of the drawing, and, when detached from the casing 3 and its annular member 3a by removing the screws, it is substantially the same as the defendant's reflector except that it is of parabolic instead of spherically-curved contour.

The specification of the patent in suit states, in lines 24 to 28,

"The radiator comprises a concavo-convex reflector 1, having a highly polished inner surface, and which is secured by screws or any other suitable manner to an outer casing 3, mounted on a base 4."

and, in lines 62 to 65

“In order to prevent the outer exposed edge of the heater from being heated, I *provide the casing with a marginal annular flange 3a.*” (Italics ours.)

These statements in the specification, in and of themselves, make the reflector and its turned-over edge one element and the casing 3, with its annular member 3a, another element.

By no interpretation, within reason, can the turned-over edge of the reflector 1 be construed as a part of the *annular member 3a*. The edge of defendant's reflector is turned over to strengthen the device and give it a finished appearance and for no other reason.

The defendant's reflector does not require either a protective casing or a protective flange because its reflector does not become highly heated, as does the reflector of the plaintiff's heater.

The operative differences between the two heaters—as regards operating temperatures of the reflectors—and the reasons therefor are fully and clearly set forth by defendant's witness Beam. (pp. 83 to 91 Rec.)

Judge Dietrich stated the purpose and function of the turned-over edge of defendant's reflector definitely and clearly in these words:

“It is possible, of course, to characterize the turned-over edge of the defendant's reflector as a flange, and to find that in a slight degree it performs the function for which the annular member or flange illustrated in the Brown patent was designed, but such an effect is merely incidental.

Its primary purpose is to give to the reflector strength and a finished appearance.” (pp. 22 & 23 Rec.)

As a matter of fact, it is immaterial whether the turned-over edge of defendant’s reflector is or is not appreciably cooler than the body of the reflector, in use because the body of the reflector does not become sufficiently heated to burn, or cause material discomfort to anyone coming into contact therewith.

It strains interpretation to the breaking point to find equivalency in two features or elements when they differ not only in structure and in intended function, but also when the demand for functional utility in the one case does not obtain in the other.

It inevitably follows that the defendant’s reflector, having a turned-over edge which conforms, in structure and function, to the turned-over edge of the reflector 1 of the patent in suit and being utilized without any protective attachments except a wire cage, cannot, by any possible construction, within the scope of the patent law, as interpreted by the courts, be held to infringe claim 1 of the patent in suit.

CONCLUSION.

It is submitted, therefore, that the only interpretation of claim 1 which is permitted by the history of the application for the patent in suit, by the statement of invention and the descriptive matter in the specification and by the prior art, is such as limits its scope to exactly what is shown and described and that, as so

limited, even though valid, it is not and cannot be construed to be infringed by the defendant's device.

Further, it is submitted that the claim is invalid in view of the prior art, as setting forth no material and substantial advance over the devices known and used prior to the entry of the patentee into the field or, if, by the exercise of extreme liberality, the claim may be upheld as valid, it is necessarily and inevitably limited to a structure in which the protective devices, comprising the casing 3 and its annular member 3a, are so related to the reflector, the heating unit and the protective cage as to perform exactly the functions which the specification sets forth as their intended functions.

As so construed, a reflector having a marginal or peripheral flange, no matter what its form or dimensions, if not provided and utilized as a means for protecting the user from injury by possible contact with a heated surface of the reflector is not an infringement.

SUGGESTED MISTRIAL.

Our comments respecting appellant's suggestion of a mistrial will be found in our brief in case 3616 and we request that such comments be read as pertaining to this case.

Wherefore it is further submitted that the decree of the Court below should be affirmed.

Dated, San Francisco,

March 5, 1921.

WESLEY G. CARR,

DAVID L. LEVY,

WALTER SHELTON,

Solicitors for Appellee.

United States
Circuit Court of Appeals
For the Ninth Circuit.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY, a Corporation,

Appellant,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY, a Corporation,

Appellee.

Transcript of Record.

Upon Appeal from the Southern Division of the
United States District Court for the
Northern District of California,
Second Division.

FILED

JAN 29 1921

F. D. MONCKTON

CLERK

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MAJESTIC ELECTRIC DEVELOPMENT COM-
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[Clerk's Note: When deemed likely to be of an important nature, errors or doubtful matters appearing in the original certified record are printed literally in italic; and, likewise, cancelled matter appearing in the original certified record is printed and cancelled herein accordingly. When possible, an omission from the text is indicated by printing in italic the two words between which the omission seems to occur.]

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In the Southern Division of the United States
District Court for the Northern District of
California, Second Division.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY,

Defendant.

**Bill of Complaint for Infringement of Design
Patent, No. 51,253.**

Now comes plaintiff in the above-entitled suit
and files this its bill of complaint against the defend-
ant, and for cause of action alleges:

1. That the full name of the plaintiff is Majestic
Electric Development Company, and at all times
hereinafter mentioned plaintiff was and still is a cor-
poration created under the laws of the State of Cali-
fornia and having its principal place of business in
the City and County of San Francisco, State of Cali-
fornia.

2. That the full name of the defendant is West-
inghouse Electric & Manufacturing Company, and at
all the times hereinafter mentioned said defendant
was and still is a corporation created under the laws
of the State of Pennsylvania, and having a regular
and established place of business in the Northern
District of California, Southern Division, to wit, at
the City and County of San Francisco, State of Cali-
fornia, with an agent engaged in conducting such

business in said Northern District of California, Southern Division.

3. That heretofore, to wit, prior to May 28th, 1917, one Edmund N. Brown, a citizen of the United States, residing at the City and County of San Francisco, in the State of California, invented a new, original and ornamental design for an article of [1*] manufacture, to wit, an electric heater casing, not known to or used by others in this country before his said invention thereof, nor patented or described in any printed publication in this or any foreign country before his invention thereof, or more than two years prior to his application for a patent hereinafter alleged, nor in public use or on sale in this country for more than two years prior to his said application, nor patented or caused to be patented by the said Brown or his legal representatives or assigns in any foreign country upon an application filed more than four months prior to the filing of his application in this country hereinafter alleged; that being such inventor as aforesaid heretofore, to wit, on July 10th, 1917, said Edmund N. Brown filed an application in the Patent Office of the United States praying for the issuance to him of letters patent of the United States for said design of an electric heater casing.

4. That after the filing of said application and prior to the issuance of any patent thereon, the said Edmund N. Brown for value received by an assignment in writing, sold and assigned to the plaintiff herein the aforesaid design, together with any and

*Page-number appearing at foot of page of original certified Transcript of Record.

all letters patent that might be issued therefor, and in and by said assignment requested the Commissioner of Patents to issue the said patent to the said Majestic Electric Development Company, a corporation, its successors and assigns, which said assignment was filed in the Patent Office of the United States prior to the issuance of letters patent on said application.

5. That thereafter, to wit, on September 11, 1917, letters patent of the United States for said design, dated on said day, and numbered 51,253, issued in the name of the United States of America under the seal of the Patent Office and signed by the Commissioner of Patents, and recorded together with the specification in the Patent Office in books kept for that purpose, were granted, issued and delivered by the Government of the United States to the plaintiff herein, Majestic Electric Development [2] Company, a corporation, as the assignee of said Edmund N. Brown, whereby there was granted unto the said plaintiff, its successors and assigns, for the term of seven years from the 11th day of September, 1917, the sole and exclusive right to make, use and vend the said invention covered by said letters patent throughout the United States of America and the territories thereof.

6. That ever since the issuance of said letters patent plaintiff has been and still is the sole owner and holder thereof, and of all rights, liberties and privileges thereby conferred, and has made and sold electric heater casings to which the said design was applied, and upon each and every one of the

said articles so sold the date and number of the aforesaid patent were marked.

7. That after the issuance of said letters patent and during the term thereof, to wit, between the 11th day of September, 1918, and the commencement of this suit, in the Northern District of California, and at other places outside of the Northern District of California, the defendant herein without the license or consent of the plaintiff did apply the design secured by said letters patent and colorable imitations thereof to articles of manufacture, to wit, electric heater casings, for the purpose of sale, and did sell said electric heater casings to which said design and colorable imitations thereof had been applied as aforesaid, and without the license or consent of the plaintiff did make and sell electric heater casings containing and embracing the invention patented in and by said letters patent No. 51,253.

8. That by reason of the infringement aforesaid plaintiff has suffered damages, and defendant has realized gains, profits and advantages, but the exact amount of said damages and of said gains, profits and advantages is unknown to the plaintiff. [3]

9. That the plaintiff has requested the defendant to cease and desist from further infringement upon said letters patent and to account to the plaintiff for the aforesaid damages and profits, but the defendant has failed and refused to comply with such request or any part thereof.

10. That the defendant is now continuing the infringement of said letters patent as aforesaid daily

at the City and County of San Francisco, State of California, and elsewhere, and threatens to continue the same, and unless restrained therefrom by this Honorable Court will continue the same, whereby plaintiff will suffer great and irreparable injury and damage, for which it has no plain, speedy or adequate remedy at law.

WHEREFORE, plaintiff prays as follows:

First: That a final decree be entered in favor of plaintiff, Majestic Electric Development Company, and against the defendant, Westinghouse Electric & Manufacturing Company, perpetually enjoining and restraining the said defendants, its officers, servants, agents, workmen and employees, and each of them, from making, using or selling the device or devices described, claimed and patented in and by the said letters patent either directly or indirectly, or from contributing to any such infringement.

Second: That upon the filing of this bill of complaint a preliminary injunction be granted to the plaintiff enjoining and restraining the defendant, Westinghouse Electric & Manufacturing Company, its officers, servants, agents, attorneys, workmen and employees, and each of them, until the further order of this Court, from making, using or selling the device or devices described, claimed and patented in and by the said letters patent, and from making, using or selling any device or devices in colorable imitation thereof, and from infringing upon said letters patent [4] either directly or indirectly or from contributing to any such infringement.

Third: That plaintiff have and recover from the

defendant, Westinghouse Electric & Manufacturing Company, the gains, profits and advantages realized by the defendant and the damages suffered by the plaintiff from and by reason of the infringement aforesaid, together with costs of suits, and such other and further relief as to the Court may seem proper and in accordance with equity and good conscience.

MAJESTIC ELECTRIC DEVELOPMENT
COMPANY.

By EDMUND N. BROWN,
President.

JOHN H. MILLER,
Attorney and Counsel for Plaintiff,
723-6 Crocker Building,
San Francisco, California.

United States of America,
Northern District of California,
City and County of San Francisco,—ss.

Edmund N. Brown, being duly sworn, deposes and says: That he is president of Majestic Electric Development Company, plaintiff, in the within entitled case; that he has read the foregoing bill of complaint and knows the contents thereof; that the same is true of his own knowledge, except as to matters therein stated on [5] information and belief, and as to those matters he believes it to be true.

EDMUND N. BROWN.

Subscribed and sworn to before me this 1st day of
June, A. D. 1920.

[Seal]

EUGENE P. JONES,
Notary Public in and for the City and County of
San Francisco, State of California.

[Endorsed:] Filed Jun. 3, 1920. W. B. Maling,
Clerk. By J. A. Schaertzer, Deputy Clerk. [6]

(Title of Court and Cause.)

Answer.

The answer of Westinghouse Electric & Manufacturing Company, the above-named defendant, to the bill of complaint of the above-named plaintiff.

This defendant, now and at all times hereafter, saving and reserving to itself all and all manner of benefit and advantage of exception which may be had, or taken, to the many errors, uncertainties, imperfections and insufficiencies in said bill of complaint contained, for answer thereunto, or unto so much and such parts thereof as this defendant is advised that it is material or necessary to make answer unto, answering, says:

1. As to whether the full name of the plaintiff is Majestic Electric Development Company, and whether the plaintiff was and still is a corporation created under the laws of the State of California and has its principal place of business in the City and County of San Francisco of the State of California, defendant does not know and leaves plaintiff to make proof thereof.

2. Answering further, this defendant admits that the full name of defendant is Westinghouse Electric & Manufacturing Company and that it was, and still is, a corporation of the State of Pennsylvania and has a regular and established place of business in the City and County of San Francisco of the State of California, with an agent conducting such business.

3. Answering further, this defendant admits that, on July 10, 1917, on Edmund N. Brown filed an application in the United States Patent Office praying for the issuance to him of Letters Patent of the United States for a design for an electric heater casing, but denies that the said design was new, original or [7] ornamental; that it was not known or used by others in this country before his alleged invention thereof and not patented or described in any printed publication in this or any foreign country before his alleged invention thereof or more than two years prior to his application for Letters Patent, and not in public use or on sale in this country for more than two years prior to his said application and that it had not been abandoned; and this defendant further denies that the design, set forth and claimed in said application for letters patent, was invented by the said Edmund N. Brown prior to May 28th, 1917, or at any other time.

4. Answering further, as to whether the said Edmund N. Brown did, subsequent to the filing of said application and prior to the issuance of Letters Patent thereon, for value received, sell and assign to the plaintiff herein by an assignment, in writing, the aforesaid design, together with any and all Letters Patent that might be issued therefor, and requested the Commissioner of Patents to issue such patent to the Majestic Electric Development Company, its successors or assigns, and whether any such assignment was filed in the Patent Office of the United States prior to the issuance of Letters Patent on the said application, this defendant is not informed and leaves the plaintiff to make proof thereof.

5. Answering further, this defendant admits that Letters Patent No. 51,253, were issued to the Majestic Electric Development Company on September 11, 1917, for the term of seven years from that date, but whether such Letters Patent were delivered to the plaintiff herein defendant does not know.

6. Answering further, as to whether the plaintiff has been and still is the sole owner or holder of the said Letters Patent and of all rights, liberties and privileges thereby conferred and whether the plaintiff has made and sold electric heater casings embodying the said design defendant does not know and [8] leaves the plaintiff to make proof thereof, but defendant denies that each and every or any electric heater casing made and sold by the plaintiff has been marked with the date and number of the aforesaid patent.

7. Answering further, this defendant denies that, between the 11th day of September, 1917, and the commencement of this suit, it has, in the Northern District of California, or in any other place or places outside of the Northern District of California applied the design secured by said letters patent No. 51,253, or any colorable imitations thereof to electric heater casings for the purposes of sale or that it has sold or exposed for sale any such article of manufacture embodying such design or any colorable imitation thereof.

8. Answering further, this defendant denies that it has realized profits, gains or advantages or that the plaintiff has suffered damages by reason of any

infringement of said Letters Patent No. 51,253 by the said defendant.

9. Answering further, this defendant admits that it has been requested by the plaintiff to desist from infringing said letters patent and to account to plaintiff for alleged damages and profits, but this defendant denies that it has failed and refused to comply with any such request, or threatens or intends to continue to make, use and sell anything described and claimed in said letters patent, or that it has made, used and sold any such heater casings since the receipt of such notice, or at any other time.

10. Answering further, this defendant denies that it is now continuing infringement of the said letters patent, directly or otherwise, in the City and County of San Francisco, State of California, and elsewhere, or that it threatens to continue any such infringement or that the plaintiff will suffer great [9] and irreparable injury and damage by reason of any acts of defendant.

11. Answering further, this defendant denies that the alleged design for electric heater casings shown, described and claimed in said letters patent No. 51,253, contains and embodies any material beneficial advance over what had previously been known to those skilled in the art, but avers the fact to be that the patent is invalid and void, for the following reasons:

(a) Because the said Edmund N. Brown was not the original and first inventor or discoverer of the invention alleged to be shown, described and claimed in said letters patent, or of any material or substantial

part thereof, but that the same and all material or substantial parts of the alleged invention had been patented or described in the printed publications and letters patent prior to the date of the alleged invention of the said Edmund N. Brown, as follows:

LETTERS PATENT OF THE UNITED STATES.

	No.	Date.	Patentee.
Design	45,317	Feb. 24, 1914	A. A. Warner.
	684,459	Oct. 15, 1901	E. F. Porter.
	921,476	May 11, 1909	W. A. Soles.
	1,109,551	Sept. 1, 1914	M. H. Shoenberg.
	1,120,003	Dec. 8, 1914	A. A. Warner.
	1,187,968	June 20, 1916	E. N. Cherry.
Design	51,043	July 17, 1917	E. N. Brown.
	1,205,011	Nov. 14, 1916	P. D. Phillips & E. G. K. Anderson.

LETTERS PATENT OF GREAT BRITAIN.

No. 2,764 of 1912.

No. 19,971 of 1913.

No. 102,070 of 1916.

PUBLICATIONS.

Page 79 of the issue of Jan. 25, 1912, *The Electrical Times*, published in London, England.

Page 37 of the issue of Jan. 11, 1912, *The Electrical Times*. [10]

Page 362 of the issue of Mar. 6, 1913, *The Electrical Times*.

Page 364 of the issue of Mar. 6, 1913, *The Electrical Times*.

Page 214 of the issue of Oct. 3, 1913, of the Supplement to "The Electrician," published in London, England.

12 *Majestic Electric Development Company vs.*

Page 353 of the issue of Oct. 9, 1913, *The Electrical Times*.

Page 591 of the issue of Dec. 4, 1913, *The Electrical Times*.

Page 12 of the issue of Oct. 16, 1914, of the Supplement to "*The Electrician*."

Page 19 of the issue of May, 1915, *Electrical Record*, published in New York, N. Y.

Page 162 of the issue of Aug. 31, 1916, *The Electrical Times*.

Page 14 of the issue of May, 1907, *Electrical Record*, published in New York, N. Y.

Advertising insert—page two of the Supplement to "*The Electrician*" of the issue of September 20th, 1912.

Page 163 of the issue of Aug. 16, 1912, of the Supplement to "*The Electrician*."

Pages 1 and 11 of the Oct. 3, 1906, issue of "*Prometheus*," published by Dr. Otto N. Witt in Berlin, Germany.

Also in many other letters patent and printed publications not now known to this defendant, but which, when discovered hereafter, defendant prays leave of the Court to furnish and concerning which defendant prays leave to incorporate data in this, its answer, by suitable amendment thereof.

(b) Because, in view of the state of the art in respect to electric heater casings prior to, or at the time of, the alleged invention of the said Edmund N. Brown, the supposed improvement shown, described and claimed in said letters patent was not a patentable invention, discovery or improvement but com-

prised mere selections and adaptations from prior known structures requiring no invention but being within the domain of mere judgment and skill in the art and, in view of such prior [11] art, this defendant refers to and hereby makes a specific part of its answer, the several printed publications and letters patent hereinbefore cited.

(c) Because, defendant is informed and believes, the said Edmund N. Brown was not the original and first inventor of the alleged invention, discovery or improvement described and claimed in said letters patent or any material or substantial part thereof; that, prior to any such invention by said Edmund N. Brown, said invention, discovery or improvement was publicly known to, and used by, others, at places in this country, to wit:

Alonzo A. Warner and Landers, Frary & Clark, at New Britain, Connecticut, and elsewhere.

(d) Because, as defendant is informed and believes, the Majestic Electric Development Company, the plaintiff herein, manufactured, publicly exhibited and offered for sale and sold electric heater casings like or substantially like that shown, described and claimed in the said letters patent No. 51,253, in the City and County of San Francisco, in the State of California, and elsewhere, and that such heater casings were so sold and were publicly exhibited and used more than two years prior to the 10th day of July, 1917.

12. Further answering, this defendant avers and says that, in view of the proceedings had and taken in the United States Patent Office during the

prosecution of the application for the said letters patent No. 51,253, the claim forming part of the said letters patent cannot lawfully be construed as covering and embracing any device manufactured and sold by this defendant, or any substantial or material part thereof, but that said claim, if held to be valid at all, must be so narrowly construed as not to cover or include the devices so manufactured and sold.

13. Further answering, this defendant avers that, for the [12] purpose of deceiving the public, the drawing, specification and claim of the said patent No. 51,253 have been made to contain less than the whole truth, relative to the alleged invention, wherefore the meaning and scope of the said patent are so uncertain and indeterminate as to render the patent invalid and of no effect.

14. Wherefore, the said letters patent are null and void and have no effect to secure the plaintiff any exclusive right in or under the subject matter of the claim of the said letters patent.

15. This defendant denies that it has done any act or thing, or proposes to do any act or thing, which entitles the said plaintiff to an injunction or to an accounting or to any other relief.

All of which defenses said defendant is ready to further maintain and prove as this Honorable Court shall direct, and it prays to be hence dismissed with

its costs in this behalf most wrongfully sustained.

WESTINGHOUSE ELECTRIC & MANU-
FACTURING COMPANY,

By E. M. HERR,
President.

DAVID L. LEVY,
WALTER SHELTON,
Solicitors for Defendant.

WESLEY G. CARR,
Of Counsel. [13]

State of Pennsylvania,
County of Allegheny,—ss.

E. M. Herr, being duly sworn, deposes and says:

I am president of the Westinghouse Electric & Manufacturing Company, the above-named defendant; I have read the foregoing answer to the bill of complaint in the suit of Majestic Electric Development Company, Plaintiff, vs. Westinghouse Electric & Manufacturing Company, Defendant, and know the contents thereof, and the same is true of my own knowledge, except as to the matters therein stated on information and belief, and as to those matters I believe it to be true.

E. M. HERR.

Sworn to and subscribed before me this 15th day of June, 1920.

[Seal]

E. E. LITTLE,
Notary Public.

My commission expires at end of next session of Senate.

Rec'd a copy of the within July 16, 1920.

JOHN H. MILLER,
Attorney for Plaintiff.

[Endorsed]: Filed Jul. 17, 1920. W. B. Maling,
Clerk. By Lyle S. Morris, Deputy Clerk. [14]

(Order Designating Judge Dietrich to Sit in This Court.)

WHEREAS, in my judgment the public interest so requires, I hereby designate and appoint the Honorable FRANK S. DIETRICH, United States District Judge for the District of Idaho, to hold the District Court of the United States for the Northern District of California, during the months of August and September, 1920, and to have and exercise within said district the same powers that are vested in the judges thereof.

WITNESS my hand hereto this 23d day of August, 1920.

W. B. GILBERT,
Senior Circuit Judge of the Ninth Circuit.

[Endorsed]: Filed Aug. 24, 1920. W. B. Maling,
Clerk. [15]

At a stated term, to wit, the July term, A. D. 1920, of the Southern Division of the United States District Court for the Northern District of California, Second Division, held at the courtroom in the City and County of San Francisco, on Monday, the 4th day of October, in the year of our Lord one thousand nine hundred and twenty. Present: The Honorable MAURICE T. DOOLING, District Judge.

No. 544—EQUITY.

MAJESTIC ELECTRIC DEVELOPMENT CO.

vs.

WESTINGHOUSE ELECTRIC & MNFG. CO.

(Order Dismissing Bill, etc.)

In accordance with the opinion of Honorable Frank S. Dietrich, United States District Judge for the District of Idaho (before whom this suit was heretofore tried), which said opinion is this day filed, it is ordered that the bill herein be and the same is hereby dismissed, with costs to defendant, and that a decree be signed, filed and entered accordingly. [16]

In the United States District Court, Northern District of California, Second Division.

No. 492.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

No. 493.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

No. 499.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Plaintiff,

vs.

HOLBROOK, MERRILL & STETSON, a Corpo-
ration,

Defendant.

(Opinion Dismissing Bill.)

JOHN H. MILLER, Attorney for Plaintiff.

WESLEY G. CARR, DAVID L. LEVY, NA-
THAN HEARD, and SAMUEL KNIGHT,
Attorneys for Defendants. [17]

DIETRICH, District Judge:

Four suits for infringement (numbers 492, 493, 499 and 544) were tried consecutively, in a large measure upon the same evidence, and have now been submitted upon the same argument. In each of them the Majestic Electric Development Company is the plaintiff; the Westinghouse Electric & Manufacturing Company is the defendant in numbers 492, 493 and 544, and Holbrook, Merrill & Stetson in 499. Numbers 492 and 499 are for infringements of United States design patent No. 51,043, issued July 17, 1917, to the plaintiff company, as the assignee of Edmund N. Brown, patentee, whose application therefor was filed May 28, 1917. Number 493 is for infringement of mechanical or utility patent numbered 1,245,084, issued by the United States on Oc-

tober 30, 1917, to the plaintiff, as the assignee of Edmund N. Brown, patentee, whose application therefor was filed July 10, 1917. And number 544 is for infringement of design patent numbered 51,253, issued by the United States on September 11, 1917, to the plaintiff, as assignee of Edmund N. Brown, patentee, upon an application filed July 10, 1917. Hence three patents are, in suit:

Design patent No. 51,043, applied for May 28, 1917, issued July 17, 1917.

Design patent No. 51,253, applied for July 10, 1917, issued September 11, 1917.

Utility patent No. 1,245,084, applied for July 10, 1917, issued October 13, 1917.

All of the patents relate to a portable electric heater or its casing, and cover substantially the same device. It will be more convenient first to dispose of the suit involving the utility patent. The claims are as follows:

“1. An electric heater, comprising a concavo-convex reflector, a heating unit supported at substantially the focus of said reflector, an annular member extending outwardly from [18] the margin of said reflector, and a protective cage having guard wires arched between opposite sides of said annular member.

2. An electric heater, comprising a concavo-convex reflector, a heating unit supported at substantially the focus of said reflector, an annular member extending outwardly from the margin of said reflector, and a protective cage of arched guard wires hinged to said annular member so

that it may be swung outwardly from the reflector.

3. An electric heater, comprising a concavo-convex reflector, a heating unit supported at substantially the focus of said reflector, a concavo-convex casing extending over the convex side of said reflector and spaced therefrom except at the margins, said casing having an annular portion extending outwardly from the margin of said reflector, and a protective cage having guard wires arched between opposite sides of said annular portions:

4. An electric heater, comprising a concavo-convex metal reflector, a heating unit in space relation thereto, said reflector being provided with apertures having their margins bent to form flanges, insulating means upon either side of said flanges, and connecting devices extending through said insulating means and connected to the terminals of said heating unit."

In the specifications we are advised that the invention relates to improvements in electric heaters, in which the heat rays generated by a resistance coil or heating unit are reflected from a highly polished surface, and, further, that one of the main purposes of the invention is to provide means by which the highly heated portions of the device are inclosed by protecting members. While the phrase "beam heater" is not used in the application for patent, the device is so referred to and characterized in the trade. The purpose thereof is by reflection to concentrate the radiant energy upon a comparatively

small area, and thus to furnish the desired measure of heat within [19] the range of the "beam," without the necessity of heating to so high a degree the entire space in the room. Admittedly an ideal beam, of substantially parallel rays, cannot be realized, and the various devices used for the purpose only approximate such a result, some more closely than others. It is also well understood that the physical laws relating to the reflection of heat are the same as those pertaining to the reflection of light.

The position of the plaintiff is that the invention disclosed by the patent in suit is generic, and that thereby Brown introduced a broad fundamental idea theretofore unknown in the art, whereas the defendant contends that he only embodied a familiar conception in a slightly different form of mechanism. Correctly, it is thought, counsel for the plaintiff so defines the underlying issue, and unless in that respect its position is sustained it cannot succeed. Considerable testimony, it is true, was offered to show that certain members of the defendant's heater are the functional equivalents of similar parts of the patented device. But if the patent is held to cover, not a generic idea, but only minor improvements in a known mechanism, there is no infringement. It is possible, of course, to characterize the turned-over edge of the defendant's reflector as a flange, and to find that in a slight degree it performs the function for which the annular member or flange illustrated in the Brown patent was designed, but such an effect is merely incidental. Its primary pur-

pose is to give to the reflector strength and a finished appearance. It is to be observed that the reflecting member of the plaintiff's heater also has a turned-over edge, so that if we eliminate the annular flange we still have a reflector very closely corresponding to the reflecting member of the defendant's heater, including the turned-over edge, and hence the novelty or patented feature in the Brown device, namely, the broad [20] flange, to which the claims doubtless relate, is not found in the defendant's heater at all. The correctness of this view may be readily demonstrated by removing the reflector in the plaintiff's heater from its casing and thus separating it from the protective flange.

The defendant's heater has no casing by means of which in the plaintiff's device the back of the reflector is protected, and therefore there can be no contention of infringement in that respect.

There is no novelty in the plaintiff's wire guard or cage, unless it be in the hinging device, and the defendant's guard is not hinged.

If valid at all, the fourth claim must be narrowly construed, for the necessity of insulation and generally the means by which it is accomplished are matters of familiar knowledge, and such novelty, if any, as the claim discloses must be found in the minute details of construction; but in such details the defendant's insulating and connecting devices are substantially different.

If, then, the plaintiff can succeed only upon the theory that the invention is generic, is such a theory tenable? Admittedly the language employed in the

patent application does not aptly express a claim of that character. Nowhere does the applicant suggest the view that he has discovered the principle of a "beam heater," or any broad, fundamental idea in relation thereto. Upon the other hand, there is an implied recognition of the fact that the principle has already found expression in the art. One of the main purposes of the invention, the applicant declares, is to provide, not a beam heater or a beam of radiant energy, but the means for enclosing and protecting the highly heated members of such a heater. And when we consider the prior art, with which Brown was doubtless familiar, [21] the reason for limiting his claims to minor improvements, and particularly to protective devices, becomes apparent. He was at the head of the plaintiff company, which at the time was actively engaged in manufacturing and marketing beam heaters, under the Shoenberg patent, of which it was the assignee. (United States No. 1,109,551, issued September 1, 1914.) And it is difficult to resist the conclusion that, when the plaintiff's heater No. 7, illustrated in the patent in suit, was first put on the market in 1916, the plaintiff understood and assumed that it was protected by the Shoenberg patent. That in so far as concerns the general principle or generic idea this patent anticipates the one in suit is scarcely open to question. The invention is described as relating to electric heaters or radiators in which, as here, "the heat waves generated by resistance coil are directed by a polished metal reflector." Even in certain details now emphasized by the plaintiff there is substantial

identity, for Shoenberg also provided both a wire guard for the front and a protective casing for the back of the reflector. Distinction is sought to be made because the reflector illustrated in the Shoenberg patent differs in contour from the one illustrated in the Brown patent, but admittedly this difference is not of the essence. The latter also differs from the one used by the defendant, in that the one is hemispherical and the other parabolic. It is not a question of the specific form illustrated, but of the principle involved and the scope of the claims of the patent, and it would hardly be contended that one manufacturing a device in all other respects like that illustrated in the Shoenberg patent could escape a charge of infringement by showing that he used a purely parabolic reflector. That patent is broad enough to embrace either a parabolic or hemispherical reflector. It refers to the reflector merely as a "reflector," without specifying the form, or as being "dome-like," or "hemispherical," or as having an "inner concave surface." But it discloses [22] the purpose and principle or generic idea quite as clearly as does the patent in suit, and if it does not fully anticipate the latter, it is only because of the wide annular flange in the later device and possibly certain details in the matter of insulating the conducting wire and connecting it with the resistance coil. One has only to glance at the photograph (Defendant's Exhibit "E") of plaintiff's exhibit at the Panama Exposition to see how fully the general principle of such a heater had already in 1914 found expression in the art. It is true that the types

of reflector illustrated in the Shoenberg patent and employed by the plaintiff prior to the patent in suit created a less perfect beam, but the difference is in degree only. In this respect the defendant's heater is an advance upon the one put out by the plaintiff under the patent in suit. But aside from the Shoenberg patent, the principle is clearly disclosed in the earlier patents and in the prior art. In English patent No. 12,320, Kempton claimed that by the use of a reflector of "parabolic or conical shape," located in a fireplace or in open space, for the purpose of throwing the heat into the room, gas could be used for heating purposes as cheaply as coal. He shows a gas jet in the same relation to the reflector as here the resistance coil. The principle is suggested in the Morse patent (United States No. 881,017, March 3, 1908), illustrating a device for applying heat to a portion of the body, to be used in the practice of therapeutics. In the English patent for the "Simplex," (No. 19,971, September 4, 1914), there is a very complete disclosure. True here again the reflector illustrated has the configuration of a cone, but the inventor's preference for this form seems to rest upon considerations of economy of construction. He adds that it may be "parabolic or the like contour." The heating element both in form and in its relation to the reflector closely resembles that [23] of the defendant's device, and the front of the reflector is fitted with a wire guard. The object of the invention we are informed "is to provide an apparatus of convenient form in which the radiant heat issues in the form of a condensed beam of rays, di-

vergent, approximately parallel, or convergent, as the case may be, and adapted to be pointed in any desired direction, horizontally or vertically." It would be difficult to state the principle more clearly or comprehensively. This device was manufactured and generally advertised before the Brown application was filed. Material also are the Warner patent of December 8, 1914 (United States, No. 1,120,003), and the Geiger patent of August 8, 1916 (United States, No. 1,194,168), and the Taylor patent of November 16, 1916 (English, No. 102,070). Noteworthy also are the "Ferranti Fires," devices in the market and more or less generally advertised as early at least as 1911, as appears from the trade literature offered in evidence.

THE DESIGN PATENTS.

One of these patents covers a casing of the precise form illustrated in the mechanical patent just considered, and the other a casing similar in form, exclusive of the wide annular flange. There could be, and of course is, no claim for size, color, or material, nor, as I understand, does the patent extend to the supporting standard or pedestal, which is of the common telephone type. The patented designs, therefore, relate to the reflector and the protective devices, viewed, of course, in connection with the attendant heater element.

The first design, the one with the wide annular flange (No. 51,043), is not thought to be infringed by the defendant's devices. There are neither reproductions nor colorable imitations. True, there are points of resemblance; so there are also points

of resemblance between these devices and the common telephone and electric fan. In all reflectors, whether for headlights or [24] heaters, there are similarities of appearance. So common is a concavo-convex reflector that the word reflector alone immediately suggests such a device. But taking the heaters here as a whole and excluding from consideration slight differences of detail, there are two important differentiating features: Whatever may be said in support of the view that the turned-over edges of the defendant's reflectors are the functional equivalents of the broad annular flange in the plaintiff's heater, clearly in so far as affects appearance they are wholly dissimilar, and the broad flange is a conspicuous differentiating feature of the plaintiff's design. So of the heater element. As shown by the testimony of one of the plaintiff's witnesses, who first observed the Westinghouse heater upon passing a show-window where it was displayed, this is an outstanding feature in the appearance of the device,—the attention is arrested by it; and the incident so testified to is in accord with my own experience during the course of the trial. When it was necessary quickly to identify the plaintiff's device, grouped as it frequently was with many others in the courtroom, my eyes involuntarily sought the element as the most conspicuous distinguishing mark. If, therefore, we consider the entire assemblage—the reflector, the protective members, and the element—as the design, there is substantial dissimilarity in appearance.

But in the second place, in so far as they are alike, the plaintiff's casings, as well as those of the defend-

ants, are entirely devoid of purely ornamental features, either of form or drapery; they are nude utilities. That, of course, is not to say that they are without comeliness. By reason of their simplicity and symmetry and the "glow," they may be pleasing to the eye; but the point is that they are bare mechanisms, no parts or lines of which can be dispensed with or substantially altered [25] without impairing their utility, and one cannot, under cover of a design patent, debar others from employing the mechanical means necessary to give effect to a known and useful mechanical principle, however pleasing to the eye such requisite mechanism may be.

In the third place, unless limited to the precise form illustrated in the drawing, the plaintiff's design is anticipated in prior patents, to some of which reference has already been made, and, in view of the prior art, is without invention. Indeed it is difficult to perceive upon what basis a claim of patentable novelty for No. 51,253, the design without the annular flange, can be predicated. The casing shown is simply a reflector of the most familiar type, old in the art, and without novelty either in configuration or feature. True, upon placing the device of this design as actually manufactured side by side with the heater actually manufactured by the plaintiff under the Shoenberg patent, we have a substantial contrast in appearance, but the contrast is of material, color, and size, and not of form. Make both of the same size and finish them both in nickel or copper, and we have similarity instead of contrast. Who, without

having the specific object in mind, would, after observing with reasonable care the drawing of patent 51,253, and thereupon being handed a photograph of the plaintiff's exposition exhibit, say with confidence that the device covered by the drawing is not shown in the photograph? The point is that in the absence of contrasting color or size there is a striking similarity in general appearance. Moreover, the design is almost identical with that shown in Figure 1 of the Taylor patent above referred to. (English, 102,070.) Substantial identity is expressly conceded by counsel for the plaintiff, who, however, contests the priority of the Taylor patent. It is true that while this patent was applied for on January 11, 1916, it was not finally issued until November 15, 1916. It is further true that Brown's "invention," as disclosed [26] in his mechanical patent and his design patent 51,043 (covering the annular flange) was made as early as April, 1916, although the patents were not applied for until the following year. But if there is any evidence that the design invention of patent 51,253 antedates the application, which was filed July 10, 1917, it has escaped my attention. It is not without significance that in the application for the Taylor patent, made before any of the Brown "inventions," the applicant carefully limited her claim with the explanation that she was "aware that it is not broadly new to construct an electric radiator with a resistance wire wound spirally upon a tubular member made of refractory material, such resistance element being mounted in front of a reflector, with a protecting guard in front of the element." In

its more conspicuous features the plaintiff's design also closely resembles the Warner device, the parabolic "Simplex," and the "Ferranti Fires." If it be said that the element in the Warner heater distinguishes its general appearance, the answer is that, as already noted, such distinction also exists between the plaintiff's designs and the alleged infringing devices.

As bearing upon the question of invention in either the mechanical or the design patents, or both, plaintiff puts great stress upon the fact that following the placing on the market of its No. 7 heater (the device with the broad annular flange), there was an increased demand and it soon went into general use, but while the fact is to be recognized as having weight, I have not deemed it sufficient, under all of the circumstances, to overcome the considerations hereinbefore stated. From the record it is manifest that in the period of four or five years immediately preceding the Brown patents there had come to be an unusual and widespread interest in the matter of electric heating. The invention of nichrome wire solved the problem of a dependable and efficient element, but the right to its use was involved in litigation, which [27] was not finally concluded until about the time of the Brown patents. With this question out of the way, heaters began to be put on the market in increasing numbers, and doubtless by means of advertising and the arts of salesmanship, the desire for such heaters was greatly stimulated. In this work the plaintiff was active, but undoubtedly it was to some extent also the beneficiary of the ac-

tivities of its competitors. It may be conceded that its No. 7 heater was in some degree more efficient than its earlier devices, and was more attractive in appearance, but, as already pointed out, its attractiveness was due not so much to slight changes in form as to increase in size and more particularly a substitution of the warm copper bowl with suitable trim in the place of the nickel type of heater. Furthermore, in the changes of social and housing conditions and in the rapidly growing tendency to use electrical energy for divers purposes in the home, may doubtless be found contributing causes for the increased demand. But whatever may be the full explanation, such popularity as heater No. 7 may have had and may now have cannot reasonably be attributed merely to the slight change in the contour of the reflector or the addition of the broad annular flange, or to both of these changes.

It is urged that in a measure the present design suits are ruled by the judgments recently procured by the plaintiff in this court against other parties, in actions at law for infringement of the same patents. The causes were tried with a jury, resulting in nominal verdicts for the plaintiff, and while they were pending upon writ of error in the Circuit Court of Appeals the parties made some adjustment, the nature of which is not disclosed, and accordingly, by agreement, the writs were dismissed. Just what effect should be given to the judgments under such circumstances is not entirely clear. It is, of course, not contended that they constitute a judicial estoppel. The judge who presided at the trial, it is true,

must have entertained the view that the evidence was sufficient to go to the jury, but there is nothing in the records to indicate [28] what his conclusion would have been had he been called upon independently to decide the entire issue. I find no difficulty in accepting his views of the law as set forth in his charge; but while it is to be conceded that uniformity of decision in the same tribunal is highly desirable, and to that end, in the case of a doubtful issue, one judicial agency may with propriety defer to a precedent established by another of the same dignity, I am unable to say that here I entertain such doubt as would warrant me in subordinating my own judgment to that of the jury in the other cases, even if it be assumed that the evidence is substantially the same.

There being no controversy touching such general principles of patent law as are involved, I have thought it unnecessary to add to the length of the opinion by stating them. Nor would it serve any useful purpose to review the cited cases. Altogether they are, of course, helpful, but no single one can be regarded as a controlling or even highly persuasive precedent upon the real issue, which is comparatively narrow, and more largely one of fact than of law.

For the reasons stated, the bills must be dismissed, and such will be the decree in each case, with costs.

[Endorsed]: Filed Oct. 4, 1920. Walter B. Mal-
ling, Clerk. [29]

(Title of Court and Cause.)

Decree.

This cause came on to be heard before the Honorable FRANK S. DIETRICH, United States District Judge, at the July, 1920, Term of court, on the 25th day of August, 1920, and thereupon was thereafter tried from day to day until and including the second day of September, 1920, upon the introduction of evidence oral and documentary, by each party hereto, and upon the argument of counsel; and thereupon after consideration thereof it was, on the 4th day of September, 1920, ORDERED that the bill of complaint be dismissed with costs to defendant, and that a decree be signed, filed and entered accordingly.

NOW, THEREFORE, it is hereby ADJUDGED AND DECREED that said bill of complaint be and the same is hereby dismissed, with costs to defendant to be taxed.

Dated: Nov. 1, 1920.

R. S. BEAN,
United States District Judge.

[Endorsed]: Filed and entered November 1, 1920.
Walter B. Maling, Clerk. [30]

In the Southern Division of the United States District Court for the Northern District of California, Second Division.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

Stipulation in Re Statement of Evidence on Appeal.

IT IS STIPULATED AND AGREED by and between the parties to the above-entitled suit, that the annexed statement of evidence on appeal is true, complete and properly prepared, and that, under Federal Equity Rule 75, the same may be approved by the Honorable MAURICE T. DOOLING, Judge of and holding Court in the District Court of the United States for the Northern District of California.

Dated: December 16th, 1920.

JOHN H. MILLER,

Attorney for Plaintiff.

WESLEY G. CARR,

DAVID L. LEVY,

WALTER SHELTON,

Attorneys for Defendant.

IT IS ORDERED that the annexed statement of evidence in the above-entitled suit be and the same is hereby approved.

M. T. DOOLING,

Judge of the United States District Court for the Northern District of California.

Dated: December 17, 1920. [31]

In the Southern Division of the United States District Court for the Northern District of California, Second Division.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MFG. CO.,
Defendant.

Statement of the Evidence Under Equity Rule 75 for the Purposes of Appeal.

This case came on for trial on August 30, 1920, in the above-entitled court at the City and County of San Francisco, State of California, before Honorable FRANK S. DIETRICH, United States District Judge for the District of Idaho, sitting by special appointment to hold court in the Northern District of California, Southern Division, during the months of August and September, 1920, John H. Miller, Esq., appearing as attorney for plaintiff,

and Wesley G. Carr, Esq., and David L. Levy, Esq., as attorneys for defendant.

John H. Miller made the opening statement on behalf of plaintiff, and Wesley G. Carr made the statement on behalf of the defendant, and thereupon the following proceedings were had:

Plaintiff offered in evidence the original design letters patent No. 51,253, dated September 11, 1917, and issued to Majestic Electric Development Company, the plaintiff, as the assignee of Edmund N. Brown, for the term of seven years from September 11, 1917, which said letters patent were received in evidence and marked "Plaintiff's Exhibit No. 1, Patent in Suit," [32] and the same is hereby referred to and by such reference made a part hereof.

Plaintiff also offered in evidence one of the design electric heater casings, made under said patent and the same was received in evidence and marked "Plaintiff's Exhibit No. 2," the same being hereby referred to and by such reference made a part hereof.

Plaintiff also offered in evidence another electric heater casing made under the patent in suit, differing from the first heater only in its height, and the same was received in evidence and marked "Plaintiff's Exhibit No. 3," the same being hereby referred to and by such reference made a part hereof.

Plaintiff next offered in evidence a Westinghouse Electric Heater Casing, being the same which had been offered in evidence in the prior case No. 493,

and there marked "Plaintiff's Exhibit No. 7," and the same was received in evidence in the case above and marked "Plaintiff's Exhibit No. 4, Westinghouse Heater," and the same is hereby referred to and by such reference made a part hereof.

It was admitted by counsel for defendant that Plaintiff's Exhibit No. 4, Westinghouse Heater, and others similar thereto, were made and sold by the defendant prior to the commencement of this suit without license of or consent of plaintiff.

Plaintiff then offered in evidence a letter written by plaintiff's attorney to defendant under date of July 29, 1919, addressed to the Westinghouse Electric & Manufacturing Company at East Pittsburgh, charging an infringement of the patent in suit, and also a letter from defendant's attorney dated August 4, 1919, in answer to the last named letter, and the two said letters are in the words and figures following, to wit: [33]

"San Francisco, July 29, 1919.

Westinghouse Electric & Mfg. Co.,

East Pittsburgh, Pa.

Gentlemen:

On behalf of the Majestic Electric Development Co. of this city, I desire to inform you that the electric heaters marketed by you are infringements upon some of the electric heater patents owned by the Majestic Co. and I must request that you desist from further sale of such heaters. In a suit recently tried in the U. S. District Court of San Francisco, brought by the Majestic Electric Development

Co. against the Hotpoint Electric Heating Company and its agents, it was decided that the so called HEDLITE heater formerly manufactured by the Hotpoint Electric Heating Co. and now being manufactured by the Edison Appliance Co. is an infringement upon design patent No. 51,043, owned by the Majestic Company. In the trial of that case, one of the Westinghouse heaters was in evidence and tested out. It is as much an infringement of this design patent as is the HEDLITE heater. Not only it is an infringement of the patent mentioned, but it is likewise an infringement of design patent 51253 and mechanical patent No. 1245084 both owned by the Majestic Electric Development Co.

On July 19th, I wrote to your attorney, Mr. Wesley G. Carr, advising him of these matters, but have had no reply from him.

We had hoped that after the decision of the Court in the above case, that your company would respect the decision and discontinue the infringements; but the fact seems to be that you are disregarding said decision, and continuing with the marketing of your infringing heaters. This causes us considerable damage and some of our orders are being cancelled on account of your infringing operations.

We beg, therefore, to call your attention to this matter and ask that you discontinue this infringement, otherwise we shall be compelled to commence legal proceedings against you or your agents. Before doing so, however, we beg that you will advise us of your intentions in the matter, and

therefore we shall wait a reasonable length of time before commencing court proceedings.

Yours very truly,
JOHN H. MILLER."

"August 4, 1919.

Mr. John H. Miller,
723 Crocker Bldg.,
San Francisco, Cal.

Dear Sir:

Your letter of July 29, addressed to the Westinghouse Electric & Manufacturing Company has been referred to me for attention. Your letter of July 19, addressed to me and covering the same subject-matter, was given careful attention and I replied to it in detail on July 25th. My reply to your former letter is believed to constitute an adequate reply to yours of July 29 except that it does not state specifically whether the Westinghouse Company will or will not discontinue manufacturing the heaters of which you complain. For reasons which I set forth in my former letter, I cannot see that the Westinghouse Company would be justified, at the present time, in retiring from the field as you expect, or at least, desire it to do.

Yours truly,
WESLEY G. CARR,
Attorney." [34]

Thereupon plaintiff rested its *prima facie* case.

DEFENDANT'S TESTIMONY.

Defendant produced and offered in evidence page 79 of a printed publication entitled "The Electrical Times," dated January 25, 1912, pub-

lished at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 1," the same being hereby referred to and by such reference made a part hereof.

Thereupon plaintiff rested its *prima facie* case.

Defendant produced and offered in evidence page 37 of a printed publication, entitled "The Electrical Times," dated January 11, 1912, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 3," and same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 239 of a printed publication, entitled "The Electrical Times," dated March 7, 1912, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 3," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 362 of a printed publication, entitled "The Electrical Times," dated March 6, 1913, published at London, England, and by stipulation of counsel it was agreed that the original should be

withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence [35] and was marked "Defendant's Exhibit 4," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 364 of a printed publication, entitled "The Electrical Times," dated March 6, 1913, published at London, England, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 5," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 214 of a printed publication, entitled "Supplement to the Electrician," dated October 3, 1913, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 6," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 353 of a printed publication, entitled "The Electrical Times," dated October 9, 1913, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted there-

for, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 7," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 591 of a printed publication, entitled "The Electrical Times," dated December 4, 1913, published at London, England, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which photographic copy was then offered in evidence and [36] was marked "Defendant's Exhibit 8," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 12 of a printed publication, entitled "Supplement to the Electrician," published at London, England, dated October 16, 1914, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 9," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 162 of a printed publication entitled "The Electrical Times," dated August 31, 1916, published at London, England, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof be substituted therefor, which said photographic copy was then offered in evidence and was marked "Defend-

ant's Exhibit 10," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 163 of a printed publication, entitled "Supplement to the Electrician," published at London, England, dated August 16, 1912, and by stipulation of counsel it was agreed that the original should be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was then offered in evidence and was marked "Defendant's Exhibit 11," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence an advertising insert of a printed publication entitled "The Electrician," dated September 20, 1912, published in London, England, and [37] by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was offered in evidence and marked "Defendant's Exhibit 12," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 1 of a printed publication entitled "Prometheus," dated October 3, 1906, published at Berlin, Germany, in the German language, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was offered in evidence and was marked "Defendant's Exhibit 13," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence

page 11 of a printed publication, entitled "Prometheus," dated October 3, 1906, published at Berlin, Germany, in the German language, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy substituted therefor, which said photographic copy was offered in evidence and marked "Defendant's Exhibit 14," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 14 of a printed publication entitled "Electrical Record," dated May, 1907, published at New York City, New York, and by stipulation of counsel it was agreed that the original be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was offered in evidence and marked "Defendant's Exhibit 15," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence page 19 of a printed publication entitled "Electrical Record," dated May, 1915, published at New York City, N. Y., and by stipulation [38] of counsel it was agreed that the original be withdrawn and a photographic copy thereof substituted therefor, which said photographic copy was offered in evidence and marked "Defendant's Exhibit 16," the same being hereby referred to and by such reference made a part hereof.

Defendant produced and offered in evidence an electric heating device which was marked "Defendant's Exhibit 'A,'" and it was admitted by counsel for plaintiff that said device was manufactured and

sold by the Majestic Electric Development Company more than two years prior to the date of application for the patent in suit.

Defendant also produced and offered in evidence another electric heating device which was marked "Defendant's Exhibit 'E,'" and it was admitted by plaintiff's counsel that the said device was made and sold by the Majestic Electric Development Company more than two years prior to the application for the patent in suit.

Defendant then produced and offered in evidence another electrical heating device which was received and marked as "Defendant's Exhibit 'C,'" the same being a duplicate of a device which was offered and received in evidence in the said prior litigation, and there marked "Plaintiff's Exhibit 13," and it was admitted by the plaintiff's counsel that such device was made and sold by the Majestic Electric Development Company as early as the fall of 1915.

Defendant produced and offered in evidence another electrical heating device which was marked "Defendant's Exhibit 'D,'" and it was conceded by plaintiff's counsel that such device was made and sold by Majestic Electric Development Company more than two years prior to the application for the patent in suit.

Defendant produced and offered in evidence and the same was marked "Defendant's Exhibit 'E,'" a photograph of the [39] Majestic Electric Development Company's exhibit at the Panama Exposition prior to May, 1915.

Testimony of Victor S. Beam, for Defendant.

Defendant then produced as a witness VICTOR S. BEAM, who having been duly sworn, testified as follows:

I am 44 years of age and reside at Maplewood, New Jersey; my occupation is electrical and mechanical engineer with offices at 165 Broadway, New York City. I graduated in Electrical Engineering from Princeton University, in 1899. From there I entered the employ of the Westinghouse Electric & Mfg. Co. in July, 1899, and have been connected with that Company either directly or indirectly ever since. I am still in the employ of that company. During my employment with the Westinghouse Company and others I became quite generally familiar with the design and operation and construction of various electrical devices and machines manufactured in this country and have always followed the electrical heating art quite closely. I am quite familiar with the laws and rules governing those devices and the design and operation of the same.

The following question was propounded to the witness by defendant's attorney, viz:

“Q. Please give the pertinent portions of the history of this specific art as applicable to the plaintiff's and defendant's heaters now before the court?”

Plaintiff's counsel objected to said question as entirely improper because it calls for the opinion of the witness in that it calls for what he considers to be

(Testimony of Victor S. Beam.)

the pertinent part of the prior art and also those parts that are applicable to this device.

The objection was overruled, to which ruling plaintiff excepted, and thereupon the defendant's witness answered as follows: [40]

“A. These devices and the patents relate to a special form, a special type of electric heating, namely, the heating of the object; they are not attempting to heat the whole room or enclosure in which the object is located. The object is usually a person who wants to be warmed, and that purpose necessarily brings in the matter of portability; the device should be portable, so as to be carried around from one place to another in the room, or from one room to another; and of course, if the owner moves from one part of the city to another, to take it with him. It is related quite closely to the electric light art. It was quite old to have flash lights to carry around when you wanted to light up a particular object; you would not have enough current to light the whole room, but you would simply light the particular object you were interested in. They have search-lights on boats and other places, selective in application so that they only light up one or a few objects at a time.

They have had flood light projectors, in which large quantities of light were generated, and used to light up large objects, and oftentimes buildings. That art is quite old. Flood lighting was done in numerous places, and I daresay it goes back to 1905 and 1906, at least, but it reached almost perfection at the Panama Pacific Exposition in 1915 at San

(Testimony of Victor S. Beam.)

Francisco. The previous World's Fairs had been lighted in a very extensive manner, with the requirement of wiring the outside of the building. At the Buffalo Exposition in 1901, that was quite a feature; they used current from Niagara Falls to light up the outside of the building, in order to get the esthetic effect. That was much advertised. In the exposition in 1904 at St. Louis that plan was likewise followed, but at the Panama Exposition in San Francisco they simply selected the object in a large area and lighted that up. Also headlights use the [41] same scheme. Of course, heat and light are really undistinguishable, because no one has yet produced a source of light that does not give heat; that is the great object that nobody has yet done. Likewise, when you try to get electric heating, you do not get it very effective unless you have some light with it to attract the eye; you must light up the device, because there is a certain amount of psychology about it; you have got to have people attracted by the heat and the light.

Now, the first projecting device for heat of which I have knowledge was the device shown in Morse's United States Patent, No. 881,017. There an incandescent lamp, probably an inefficient one, was placed in front of a concave surface, with a guard in front to protect it, and that was used as stated in the patent, to concentrate the heat upon the affected part. In that particular case, it was sought to apply heat to certain portions of the body; that would be usually held quite close to the body, but it has the prin-

(Testimony of Victor S. Beam.)

ciple there of selecting the object you are going to heat, and throwing the rays all in one direction. Quoting from lines 71 to 77 of this patent, I read:

‘The feature of mounting the electric lamp in a horizontal position within the reflector is considered highly advantageous, as by this arrangement, the lamp projects its heat more efficiently onto the surface of the body, and furthermore, the socket of the lamp then operates effectively as a handle, facilitating the handling of the heating device.’

There in that device you have both heat and light projected in a beam onto a selected object.

Now, another early device was gotten out by the Westinghouse Electric & Manufacturing Company about 1912 or 1913 and was shown in the Geiger patent, No. 1,194,168, granted August 8, 1916. This device was put on the market, and has [42] been on sale ever since by the Westinghouse Company. That device consisted of a concave structure, a shell somewhat resembling a seashell, the idea being to make it extremely ornamental; the heat source in that case was carbon wires or coils inside of tubes. It is, in effect, an incandescent electric lamp, although of low efficiency, so far as light is concerned. But the device was made in considerable quantities, and gave out both heat and light, and projected the rays of both heat and light in a definite direction, selective, so as to light and heat the object. The patent says, ‘Although the reflector 8 is shown of the clam-shell design, it is understood that such a reflector may

(Testimony of Victor S. Beam.)

be of any other design or form,' and as to the source of heat and light it says 'preferably it should be of the luminous type, preferably arranged side by side and extend upward in front of the reflector. It is understood that other suitable types of heating units may be employed with my invention.'

Now, that device was extremely ornamental; it was not as efficient as some of the devices to-day, and of course it is objectionable in that these lamps break quite readily; an incandescent lamp at its best is quite fragile, and it has many objections, but it was highly ornamental. I have one of these here, and produce the same, which consists of a clamshell coppered on the inside, pleasing in appearance, with incandescent lamps placed within the curvature of the shell, and is a device that a housewife would not certainly object to having around. They might not possibly buy it simply for the beauty of it, but it certainly is more pleasing in appearance than some of the more practical devices which have followed it. That, as I say, was built by the Westinghouse Company quite a number of years, and it was about the only type of heater that it could build at that time, prior to say the [43] middle of 1917, because while it was recognized that incandescent lamps were not the best sort of thing to generate heat for that purpose, the advisability of utilizing the more efficient form of wire was doubted by the Westinghouse Company, first because there was considerable doubt about the wires which were then on the market standing up, that is, their

(Testimony of Victor S. Beam.)

resisting oxidation, and the other handicap that presented itself was the patent situation with respect to the nickel-chromium alloy of the heating element, the only heating element that would stand up in exposed conditions, when being burned or illuminated. When an electric wire is exposed to the air, heated to a luminous state, it is attacked so readily by the oxygen of the air that it almost immediately burns up; the carbon filament in a lamp would not last an instant if exposed to the air; they have to put that in a vacuum. Of course, there are a lot of heat applications where you cannot use lamps, and there were devices using wire on the market, but to a great extent they were in places like in a flat-iron where your wire is covered up and not exposed to the air, so that while there were, prior to the middle of 1917, considerable heating devices on the market, and quite a number with the wire exposed, yet there was a patent situation there that had not been cleared up, and it was not until 1917 that the Westinghouse Company felt free to extend its operations in that particular field. That patent situation was the result of a patent to Marsh, that was granted in 1906 but it was some years before it was put in litigation, and it developed very slowly under it, because it was held by a comparatively small company, and the litigation was long-drawn out, and that was not finally decided until some time in 1915 by the Court of Appeals of the Seventh Circuit, the case of Hoskins Electric Manufacturing Co. v. General Electric Company. [44] In that case,

(Testimony of Victor S. Beam.)

from which I have an extract, the court pays great tribute to the alloy for making up a heating device. It said:

‘The invention of toasters, heaters’—

Mr. MILLER.—I object to his going into this matter. I don’t know what he is reading from, so far as that is concerned, but I do not think it is proper for him to go into a matter of this kind regarding the Marsh patent. The Marsh patent decisions are reported in the Federal Reporter, and we have access to them.

The COURT.—Yes.

A. (Continuing.) That alloy which is sold under various trade names, one of which is Nichrome, has the distinguished ability to stand up, to resist oxidation when it is red hot, and it is the use of that alloy, the availability of that alloy to the electrical art that has made possible a large number of devices and particularly the devices in question here; that is, the radiant heaters, where the heating element must necessarily be exposed to the air when in operation.

I may have given the impression yesterday that a nickel chromium composition was the only wire that could be used in an exposed heater of that sort. I should correct that, as it would be possible to use platinum if the same could be obtained, but as that is very scarce and very expensive, it is practically out of the question.

The next and perhaps the most interesting prior device of the reflecting heater is that shown in the British patent No. 19,971, of 1913, of the Simplex

(Testimony of Victor S. Beam.)

Conduits Limited. That shows a reflecting heater in several views. The reflector is shown in the figures as a fluted cone, but it mentions in the description that that reflector may have various forms, one of which is a parabola. That appears to be the same device that is shown in exhibits Nos. 9 and 10. Now, the form shown [45] in the drawings is rather of an ornamental nature, in that it has the fluting. That does not tend to its efficiency.

Mr. MILLER.—I object to this line of testimony.

The COURT.—Yes.

Mr. MILLER.—When he undertakes to say that it does not tend to its efficiency, or something like that, that is something beyond the theory of this case.

The COURT.—Yes, I think so.

A. The device as shown in Figure 1 consists of a stand which is somewhat like the stand that is used for electric fans. It consists of a dome-shaped piece, and of a vertical standard, and then mounted in that is a U-shaped trunnion; that is the form illustrated in the Westinghouse device in this case; then the cone-shaped reflector is mounted so as to tilt in that trunnion, and, therefore, the direction of the light rays is adjustable. Figure 1 is a side view of the whole device, Figure 2 is a front view, the trunnion arrangement being shown in dotted lines. Now, as I say, the fluted cone-shape is shown in that figure for the reflector, but in the provisional specifications it is set forth that the condensed beam of rays may be divergent or approximately parallel or convergent, meaning that the reflector may have various

(Testimony of Victor S. Beam.)

forms, and then, further along, in the second paragraph it says the reflector is preferably in the form of a cone, this being a shape which can be cheaply rolled into form out of sheet metal. Then, further along in line 34, it says, 'or the reflector may be in whole or in part of parabolic or the like contour, according to the form desired for the emergent beam of rays.' Then, further on, line 40, in respect of the reflector, it says:

'It may with advantage be corrugated or fluted, as this stiffens it and improves its internal appearance when the heating element is incandesced.'

So that while it is shown as a corrugated reflector, it is [46] contemplated that it be perfectly smooth on the inside and that it may take the form of a parabola, or the like.

Further, in the provisional specifications, line 42, it says:

'We prefer to mount the reflector pivotally on a forked stem, which, itself, can pivot on a foot bracket, so that the beam of rays can be turned to point in any direction.'

And then in the complete specifications, line 37, it speaks of the color of the inside of the reflector; it may be of a cast metal lined with copper, and that it may be wholly corrugated. The heating element in this case is arranged in line with the longitudinal axis of the cone or the parabolic reflector, as it may be, and that as an arrangement of coil tends to give uniform distribution of the light rays. It must

(Testimony of Victor S. Beam.)

be recognized in this art that you cannot get your source of light down to a single point. Your coil takes up space, and therefore you cannot get your light source at any geometric or mathematical point; so that you may go to a great deal of trouble to get your reflector mathematically perfect, but you will be thrown out from your calculations by the fact that you cannot get your heating element down to a point; it takes up a space, and, therefore, it is quite advisable to make your reflector conform to the shape of your heating device, or accommodate itself to the requirements of the heating device. A guard is shown in this patent designated by the letter H. It is shown in Figures 2 and 3. It consists of a central ring, with three radiating spokes to support it. I have had a device made up in accordance with this patent for illustrating and herewith produce the same. I have had both the corrugated reflector and the parabolic reflector made. The parabolic reflector is mounted in the trunnion, and the corrugated reflector is separate. The form of guard shown in that particular exhibit I have made up is that shown in exhibit No. 9 in this case. [47]

Another illustration of the prior art devices is the Warner patent 1,120,003, granted December 8, 1914, United States patent. That patent shows—

The COURT.—Cannot you save time by introducing these? I think they are clear enough without lengthy explanation of them.

Mr. CARR.—I do not think it is necessary for the

(Testimony of Victor S. Beam.)

witness to state very much. He might state a word or two with reference to the patent.

The COURT.—Where there is a cut or illustration together with an explanation, it would seem to be quite obvious. It is a question largely of appearance.

Mr. CARR.—I think perhaps that any features that might be deemed necessary and advisable to bring more definitely and specifically to your Honor's attention could be done in the argument.

The COURT.—Yes.

Q. You say this is an American patent?

A. Yes. I was simply going to add that that form of heating coil is not the best, and they had used the lamp in there to illuminate the device, to get the red effect. It shows a concave bowl, mounted on a stand, handles for carrying it. It has, I would say, a rather inefficient form of heating coil, and they have taken the precaution of putting a double casing on there in the rear of the reflector. That is to prevent the part that the public might touch, marked "c" from becoming heated from the coil—as a matter of protection there. There would be a dead air space in between the curved line "e" and the curved line "f."

Another American patent is one to Milton H. Shoenberg, assigned to the Majestic Electric Development Company, San Francisco, and is numbered 1,109,551, and dated September 1, 1914. One particular thing shown in that patent is two linings [48] to the casing, the dead air space in between, as shown specifically in Fig. 10; it has the bowl-shaped reflector, the heating element arranged within the

(Testimony of Victor S. Beam.)

curvature of the same, and it has a guard to protect the heating element from being touched. I would call particular attention to the arrangement of the heating coil with respect to the reflector. You will see that that arrangement runs through all of the devices produced here as the product of the Majestic Development Company, the plaintiff. The coil is arranged transverse to the longitudinal axis of the reflector. That arrangement of the coil has some drawbacks, as it is difficult to arrange it uniformly with respect to the reflecting surface, and portions of the reflecting surface are liable to get very warm, and it is necessary to take some precautions to overcome that arrangement. In the latter forms of the Majestic devices, a flange is provided for protecting the public from being burned by the heat which would be generated in the reflecting surface, and also there is provided that double casing, an additional curved member at the back of the reflector, so as to prevent the public from touching the heated reflector. As I understand it, the intent was to get the coil as near to the focus as possible. Looking at it one way, that is accomplished, but since the coil must have length, it would get very much out of focus at the ends, and that is the part that causes the trouble in the heating of the reflector. That necessity for the flange in the Majestic devices, and likewise for the extra casing is clearly set forth in patent 1,245,084 to E. N. Brown, dated October 30, 1917, in which it says:"

At this point counsel for plaintiff objected to this

(Testimony of Victor S. Beam.)

testimony, as being directed purely to the utility of the device, and that the witness is now proposing to read from another patent and the court ruled that the objection was well taken. [49]

Thereupon the witness continued as follows:

"A. I simply want to mention that the Porter U. S. Patent No. 684,459, granted October 15, 1901, shows a form of guard which might be used in this form of heater; although the device there has the appearance of a fan, and is a fan, it is a fan equipped with a heating element, so that it may blow warm air instead of cool air. When the Westinghouse Company started to design the present type of heater, it had available the straight-line coil of the Simplex Conduits device, and it had the curved reflecting device of the Warner patent, No. 1,120,003. It recognized the fact that it could not get a heating coil at a single point, and that the coil would have to have length, so it arranged its coil in the same order that the Simplex Company of England, had arranged its coil, and utilized the curved reflector of the Warner patent, although it is also clear from the Simplex Conduits Company patent that practically any form of reflector may be used. I have shown in the exhibit 1 one form of parabola, but as a parabola may take many forms, depending upon the distance that you take between the point called the focus and an outside line called the directrix, the law of a parabola being that the distance from any point on the curve to the focus must be the same as the distance to the

(Testimony of Victor S. Beam.)

line on the directrix; but the parabola, as I say, may take many different forms, and when you get a parabola of a wide flare, that is, the distance between the focus and the point on the line, large, you approach a curvature of a circle, so that like in some of the devices here, though one may be a parabola and the other a circle—it is extremely difficult to tell which—a reflector in the form of a segment of a circle cannot, strictly speaking, have a focus, and in the Westinghouse device it is not attempted; it is recognized that it could not have a focus, and no attempt is made to get one; in fact, the heating coil is strung along, extended along the longitudinal axis, and the curve of the reflector is made [50] so as to accommodate that so that the light, going from any point on that coil, is reflected properly. The Westinghouse device has a reflector corresponding to the arc of a circle, and that gives a very wide beam of light, and the coil being arranged on the transverse longitudinal axis, gives a very good heat distribution over the surface of the reflector, so that the reflector keeps cool itself and it needs no provision for protecting the public from the heat, and likewise it has no double casing at the back to provide a dead air space and prevent the public coming in contact with heat. Of course, it has a guard in front to protect the public from coming in contact with the heated coil, such as they provide guards on electric light reflectors and on fans; they are very old and necessary expedients.

[51]

(Testimony of Victor S. Beam.)

"The COURT.—Q. You say the reflector on the Westinghouse device does not become hot?

A. No, not as on the others, where the coil is not arranged properly.

Q. It does not become as hot as the Majestic?

A. No; that has been my experience. The reason for that is, the Westinghouse device is not designed along mathematical or geometrical lines; its design is rather imperical; but it was designed with the appreciation that a straight-line coil on a longitudinal axis is the only proper device; and it has discarded the idea of making the reflector parabolic. A parabolic curvature is theoretically the proper one, if you have got a point for the source of your light and heat. In this case it is both light and heat. If you want strictly parallel rays, you only need to take a parabola and put a point of light at the focus and you will get strictly parallel rays, but the difficulties of that is that your coil must have size, and when you get out of the focus then that more than overcomes any nicety which you have in mind in arranging the curvature of your reflector."

Continuing in answer to questions by defendant's counsel the witness testified as follows:

There are not any features or characteristics of Defendant's Exhibits "A," "B," "C" and "D" which are not readily and obviously apparent to the Court as to which I could give any enlightenment. I think they are all quite clear on the face. I have called attention to the arrangement of the heating

(Testimony of Victor S. Beam.)

coil and called attention to the fact that there are some elements of the earlier ones, the fluted stand, for instance, that is not in the latter device, that is not in the No. 7 heaters. A close inspection shows that the reflectors of all four devices built earlier than No. 7 have a single thickness, that is, in the [52] earlier devices, No. 1, No. 2, 2b, and 3 (Defendant's Exhibits "A," "B," "C," and "D") had a single thickness of the reflector on the back, whereas in No. 7 there are two thicknesses giving a dead air space in between. I might add that double casing allows of bringing out of the electric leads a little better form. You will notice that in all of these prior devices there are two exposed terminals, requiring insulation, sufficient to protect from the atmosphere, whereas in the No. 7 device all that is arranged on the inside, between the two casings, so that the leads come out through a single opening; that is a much better arrangement. Of course the reason for the two connections comes from the fact that they use a transversely arranged coil, and it is necessary to make contact at the two ends of that coil; of course the coil being long requires that the connections to it be quite a distance apart, so that necessitates bringing the contacts out from the rear of the casing at quite a distance from each other. I might point out that with the straight line form of heating coil, as used in the Westinghouse device, that connections to the coil can be made much more readily and without having a double casing. Of course, I point out that the ear-

(Testimony of Victor S. Beam.)

lier devices were nickel plated, whereas the later ones are copper colored. With reference to No. 1, 2, 2b and 3 appearing here as Defendant's Exhibits "A," "B," "C" and "D," those early devices do not have the marginal, relatively wide marginal flange and the double casing found in No. 7 Majestic heater, those earlier devices do not have those protective features.

Cross-examination of Witness BEAM.

On cross-examination the witness BEAM testified as follows:

I am one of the salaried employees of the Westinghouse Electric & Mfg. Co. and have been such since 1916, but either directly or indirectly I have been connected with them [53] since 1899. The principal place of business of that company is at Pittsburgh, but they have offices in New York City, and I have a room there in those offices as any other employee would have. I am a mechanical and electrical expert employed by them in reference to their various devices. In reference to nichrome wire used in some of the devices, it is the wire referred to by me as being covered by the Marsh patent and used by the Westinghouse Company in its coil under a license from the owners of the Marsh patent. The final arrangements for the license were made in the middle of 1917, prior thereto the Westinghouse Company used in the unexposed heating element a wire made by the Driver Harris Company which had no chromium in it, and also some nichrome wire made by the Driver Harris

(Testimony of Victor S. Beam.)

Company and some excello wire, a German wire. While the final arrangements with reference to the license were not completed until the summer of 1917, we actually had the license through our subsidiary company, the Westinghouse Electric Products Company, some time before that, but there was considerable litigation over the matter so that the whole subject was not cleared up until the summer of 1917. This Excello wire which I referred to was on sale in the United States, but during the war it was impossible to get it. I believe it was on sale as early as 1912, and I believe anybody in the United States could use it who chose to purchase it, if he overlooked the Marsh patent for the time being. The Westinghouse Company had used some of this excello wire but they used as little as they could.

Mr. Thornton and Mr. Forsbee got up the design of the Westinghouse heater that is involved here. Mr. Thornton was an engineer in the heating department and Forsbee was his assistant, I believe. Neither of these gentlemen came out with me and they are not available as witnesses here. Mr. Thornton is at Mansfield, Ohio, and I don't know where Mr. Forsbee is. [54]

When I said that the Westinghouse Company had at that time available for use in getting up their design this Simplex Conduits English patent, I mean simply that that was an open public document that they could refer to if they desired, a part of the prior art I suppose you could consider the

(Testimony of Victor S. Beam.)

Brown No. 7 heater a part of the prior art in a sense. I believe the Westinghouse Company began getting up this design in the latter part of 1917, but production was held up on account of the war until the latter part of 1918 I believe. As near as I can recollect, the first ones were put on sale in the latter part of 1918. When I say they had available for their purpose this English patent, I do not think that they placed the English patent before them and proceeded to make a design corresponding with that patent; engineers do not usually work that way. They also had available in making up the design everything that was known at that time. They may have taken a Brown No. 7 heater and examined that and looked it over and noted its characteristics at the time they got up the Westinghouse heater. I do not know of my own knowledge regarding that matter. The Westinghouse Company has a heater here which has a clam shell reflector. They began to manufacture and sell that device in 1912 and 1913, and they sold devices of that kind. Mr. Geiger got up the device, and he is the gentleman to whom the patent was issued and it has been assigned to the defendant. Defendant's counsel has produced a heater here which consists of a deep, parabolic reflector mounted on a stand, which could have been made in that way instead of making it in the way of a fluted cone. That particular device was made in Mansfield, Ohio, at our plant, and was manufactured for illustrative purposes in this case, as an interpretation of the pat-

(Testimony of Victor S. Beam.)

ent. It was not manufactured for sale. We have not any like that for sale. The other device consisting of a fluted cone, that is in the same [55] category, that is to say, it was made for illustrative purposes in this case in our plant at Mansfield, Ohio, as an interpretation of the British patent, possibly, well, possibly under my direction and possibly under Mr. Carr's. I was present at Mansfield, Ohio, when it was being made, and I think the only actual suggestion I made was to make the casing a bit thicker so that it would hold its shape. Mr. Thornton really supervised the actual construction. Mr. Carr instructed Mr. Thornton and I did, too, to make it according to the construction of the British patent.

Instructions were given by Mr. Carr as to how to make it. In making the Westinghouse heater which is involved in this case, we made a flat curve instead of a deep one as shown in the Simplex Conduits device because we wanted a little wider spread. With a longitudinal arrangement of the coil we would have to make the bowl to fit it to get the best distribution of heat on the radiating area. They apparently found that that shape caused the best heat distribution. I am sure that is what they were after. I think it did give a better heat distribution than the particular form of parabola shown in the English patent. The patent mentions that you can get divergent or parallel or convergent rays. It gives wide instructions there. You could readily make a wider one under the pat-

(Testimony of Victor S. Beam.)

ent. There are no directions in the patent as to what kind of parabola you would make, whether deep, flat or more elongated, there are no directions in there as to what kind of parabola you can make. The only suggestion about it at all would be the most natural one to make in the first instance, although you were not limited to that. You would make one of the shape more nearly corresponding to the cone shown there, you have a wide choice under the language there. That choice is left to the party who wants to make a parabolic reflector in accordance with that suggestion. It is stated in there that the interior may be smooth; that would necessarily apply as well to the [56] parabola as to the cone. Of course the man who designed that tended rather towards the artistic because he showed the fluted cone; all those British things are rather more ornamental.

On redirect examination the witness said:

"I do not know the composition of the Excello wire to which my attention has been called. I am quite sure it has some nickle and some chromium in it, but the exact composition of it I do not know at this time."

Defendant then offered in evidence certified copy of U. S. letters patent No. 881,017, issued to W. E. H. Morse on March 3, 1908, and the same was marked Defendant's Exhibit "F."

Also copy of U. S. patent No. 1,104,168, issued to Albert J. Geiger, assignor to Westinghouse Electric

(Testimony of Victor S. Beam.)

and Manufacturing Co. on August 8, 1916, which was marked Defendant's "G."

Also copy of the U. S. patent No. 1,120,003, issued to A. A. Warner assignor to Landers, Frary & Clark, on December 8, 1914, which was marked Defendant's Exhibit "H."

Also copy of U. S. patent No. 1,190,551, issued to Milton H. Shoenberg, assignor to Majestic Electric Development Co. on September 1, 1914, which was marked Defendant's Exhibit "I."

Also a model as illustrative of the disclosure of the British patent 19,971 application filed September 4, 1913, and accepted September 4, 1914, and the same was marked Defendant's Exhibit "J."

Also a fluted cone produced as illustrative of the reflector shown in the British patent, 19,971, application filed Sept. 4, 1913, and accepted Sept. 4, 1914, and the same was marked Defendant's Exhibit "K."

Defendant read in evidence two letters received from Mr. John H. Miller, representing the Majestic Electric Development Company, as follows: [57]

"December 31, 1918.

"Westinghouse Electric & Mfg. Co.,

165 Broadway,

New York City, N. Y.

Gentlemen:

On behalf of my client, the Majestic Electric Development Company of this city, I beg to notify you that the electric heaters, shown on page 16 of the Westinghouse Catalogue, Section 8-C, of November, 1918, known as 'Cozy-Glow Radiator,' are an in-

fringement upon United States letters patent No. 1,245,084, of October 30, 1917, and U. S. design patent 51043, of July 17, 1918, also U. S. Letters Patent No. 1255814 of February 5, 1918, all of which patents are owned by the said Majestic Electric Development Company.

The object of this letter is to advise you of the said infringement and request a discontinuance of the same. In default of compliance with this request, we shall be under the necessity of commencing suit against you in the United States District Court for infringement and a recovery of damages and profits. It is possible that in marketing this device you were not aware of the existence of these patents or that you were interfering with the rights of my client. Consequently, before instituting suit, I shall be pleased to hear from you relative to this matter, and an early response will greatly oblige

Yours very truly,

“JOHN H. MILLER.”

“February 7, 1919.

“Westinghouse Electric Mfg. Co.,

165 Broadway,

New York City, N. Y.

Gentlemen:

Attention of Mr. Victor S. Beam.

During an extended absence from my office notice was sent to you by my managing clerk charging infringement of certain patents owned by the Majestic Electric Development Co., and I have your favor of January 6th requesting the specification of the claims of patents relied on.

In reply I beg to say that the claims and patents relied on are as follows, viz.:

1. Design patent, No. 51,253 of Sept. 11, 1917.
2. Patent 1,245,084, of October 30, 1917, claim 1.
3. Patent 1,255,814, of February 5, 1918, claim 2.
4. Patent 1,109,551, of September 1, 1914, claim 1.

The above particulars differ a little from the notice heretofore sent you but the writer of the first letter was not fully posted on the situation and you may disregard the first notification and accept this one as the correct one.

Yours very truly,

“JOHN H. MILLER.”

Defendant's counsel then offered in evidence a model which he claimed to be a reproduction of what is shown in the Warner patent, No. 1,120,003, which he said was not made for sale or copied from anything which was made for sale, but was simply made from what is shown in the patent as nearly as he could [58] make it, and the same was marked Defendant's Exhibit “L.”

Defendant also offered in evidence a device produced and identified by the witness Beam as made under and corresponding to the Geiger patent, No. 1,194,168, referred to as the clamshell heater, and the same was marked Defendant's Exhibit “M.”

Here defendant rested.

PLAINTIFF'S REBUTTAL.

Testimony of Edmund N. Brown, for Plaintiff (In Rebuttal).

In rebuttal plaintiff produced as a witness E. N. BROWN, who testified as follows:

With reference to the use of alloys or wire made of alloys, other than the Marsh device, in these exposed heaters, we used either chromium or nichrome. We used Excello first obtained from the Herman-Boker Company in New York. It was a wire that was on sale in the market, and we used it on all of our heaters prior to the time that we commenced to manufacture our No. 7. We had no trouble in getting that wire until after the War was on. The difficulty then was because of war conditions. We also used another wire besides the Excello called Calido made by a firm at Morristown, N. J. After the plaintiff started in its business in 1914, the first heating device we put on the market was a pendant type, called by our trade name No. 1. The shape of the reflector of the device was what we called a pie-plate and is the same as the device which I now produce.

Here the device in question was put in evidence and marked Plaintiff's Exhibit 6.

(Witness continuing:) After that we put on what is called a kind of a dish plate which is represented by this model, Exhibit "A." It was made of nickel, and intended to be suspended from a point of suspension projecting from the wall or hanging from

(Testimony of Edmund N. Brown.)

the wall. We do not offer that device for sale now.
[59]

The second device which we put on the market was known by our trade name No. 3. It has a glass knob, and it is represented by Defendant's Exhibit "D." We have not continued the sale of this device, and it likewise has been abandoned.

The next device we put on the market was the one termed by our trade name No. 10. That was the same shape as an oil stove. It had a back to it like an oil stove, above one-third of it—the front part was a guard, different from the ones we have on the other type heaters; it stood up on four legs. It looked very much like an oil stove. We also discontinued the sale of that device and it likewise was abandoned.

The next device we put on the market was the one we styled by our trade name "No. 2," and represented by Defendant's Exhibit "B." We abandoned that device likewise as we did the other devices.

The next heaters we put on the market were designated by the trade names 1b, 2b and 3b, which were put on simultaneously. They were to take the place of our former Nos. 1, 2 and 3. They had a bell shape which we thought would be more efficient. Defendant's Exhibit "C" represents the said 2b and 1b was the pendant type, and the one with two elements was 3b. The 1b was the suspension type, the 2b and 3b were the same with the exception of the number of elements. The 2b was to

(Testimony of Edmund N. Brown.)

take the place of the former 2, and the 3b was to take the place of the former 3. We proceeded to sell the 1b, 2b and 3b, and we abandoned them later.

The next heaters were known by our trade names 4, 5 and 6. They were of the square type or box type, and are illustrated by a device which was put in evidence in the prior litigation and marked Plaintiff's Exhibit 18. There were three figures shown at the bottom of the said exhibit. They have the general appearance of a guard or fire place, and are called [60] our box type heaters. No. 4 has a single element, No. 5 two elements, and No. 6 three elements. That and the dimensions are the only differences between them. We met with considerable success in the sale of our Nos. 4, 5 and 6 heaters, and have continued to sell them to this date, and carry then in our catalogus stock.

The next type of heater we got out was known by our trade name No. 7, which is represented by my model in evidence here, and that is the one I have testified about on direct examination. Our object in getting out so many styles of these was that I knew I did not have the one that I wanted until I got the No. 7. I was striving until I hit on the No. 7. I did not have the one that I thought was the proper heater. I tested that matter out by putting them on the market and before the trade and selling them, and in this chain of evolution I finally reached the No. 7 heater, and I found that out as I put them out to the trade. The others were abandoned all excepting Nos. 4, 5 and 6

(Testimony of Edmund N. Brown.)

(box type heaters) which we are selling to-day, but that is a different type of heater. After our No. 7 came on the market we didn't put out any other style or change the design. We got out what we called a No. 8 of the same design, only that we put two elements on it; that was to get additional heat. I might add that we are confining ourselves in the No. 8 to absolutely the same type reflector. Our sales of No. 7 which we put on the market in comparison with the sales of previous heaters increased, you might say, with leaps and bounds, I mean the No. 7 heater. The No. 7 heater sold in much greater numbers, several times greater, you might say, as it went on, and the sale of No. 7 is increasing all the time. The present year is the largest we have had up to date in the sale of the No. 7 heaters. I want to say one thing. This year we are putting out a little larger reflector on our No. 7 and calling it 11, [61] but that is the only change. We are calling it that to let the trade have something to distinguish it by. The diameter of No. 11 is 12 inches. We abandoned the four types of heaters and confined ourselves to No. 7 because we considered the No. 7 a better article, and we sold a great many times more of the No. 7 than we did of any other types.

The photograph of our exhibit at the Panama Exposition which has been put in evidence shows our former heaters, No. 1, No. 2, No. 3 and No. 10, and there is one kind of a bird cage we had there, but it was only an experiment; we did not market them generally. We had one hung up on the wall

(Testimony of Edmund N. Brown.)

that was portable also, but we did not sell many of these. Those were all of the portable type. The photograph does not show either 1b, 2b or 3b. Those, the 1b, 2b and 3b were gotten up in the fall of 1915, which was too late for the Exposition to be shown in the photograph. That series, 1b, 2b and 3b, was gotten up to take the place of the 1, 2 and 3.

Referring to the heater of the Simplex Conduits, Limited, of London, England, designated as the British patent, which has been offered in evidence (No. 19,971, application filed Sept. 4, 1913, and accepted Sept. 4, 1914). No heaters of that description and appearance have been on the market in the United States that I know of, and my opportunity of determining what heaters are on the market in the United States is that I make it my business to always keep in touch with anything that comes out in our line.

Regarding the other heater which has been offered in evidence here, the Warner patent (Defendant's Exhibit "4"), I talked to some dealers and they tell me that that has been taken off the market by Landers, Frary & Clark, the manufacturers. I have endeavored to find another one in the city here but have been unable to do so. [62]

When we got up our No. 7 heaters, the heaters which we abandoned and discontinued were the "b" type heaters, 1b, 2b and 3b and No. 10, and previous to getting out of these types we had abandoned the others, 1, 2 and 3. Those prior heaters

(Testimony of Edmund N. Brown.)

were abandoned because we were, you might say, in a period of evolution. We were experimenting all the time to see what was the best and we found the No. 7 a better heater, more efficient, more ornamental to the eye and looked better. Since we put our No. 7 on the market, we have not put any other or different type of heaters on the market, except our No. 8 which is the same as No. 7 with the exception of having two elements. As to how our sales of the No. 7 compared with the sale of our previous heaters which were abandoned, they were so far ahead—they ran into the hundreds of thousands, that is the No. 7 did. We have not sold many thousands of the others. The trade liked the No. 7 better than the others; in fact, to state an expression of the trade, I can state one remark, that we had out now the right kind of a heater; and such like remarks.

Cross-examination of E. N. BROWN.

Our sales of the previous heaters, Nos. 1, 2 and 3 and 1b, 2b, and 3b, were not confined to the Pacific Coast. We were given to understand by the trade that the reason why they seemed to like the No. 7 better than the preceding heaters was that they liked the appearance better; it was also a more efficient heater; they liked the appearance. They made the remark, "Now, you have got something that looks right." Never prior to our No. 7 heater did we market a heater of portable type having a burnished copper reflector. In regard to our ability of disposing of all the heaters of the beam type we

(Testimony of Edmund N. Brown.)

have been able to make, I will say that we have restricted our manufacture on account of the infringement. We could make a [63] great many more than we are making to-day if we knew our rights were being protected. We have not been able to dispose of all we made. We carried over some last year. I believe we could supply the entire trade of the country if we had an unrestricted right.

The Excello wire referred to by me is similar to the Marsh patent wire. We took a license under the Marsh patent because we knew we would be infringing if we did not, and that we would be subject to being sued.

We have a few of the heaters preceding No. 7 on hand of different types that we have been unable to sell, but we do not list them on the market. We have not been able to dispose of those heaters.

Defendant then produced a pamphlet or folder and the witness identified it as a pamphlet which plaintiff is now getting out, containing illustrations and reading matter on heaters Nos. 4, 5, 6, 7, 8, 11, 15, 30 and 35 types, and states that said catalogue represented all the types of heaters which the plaintiff was now marketing except No. 9, which is similar to No. 6, only that it has two more heat units, and in proportion is a little larger in size. The document was then offered in evidence and marked "Plaintiff's Exhibit 9."

Defendant also offered in evidence an exhibit referred to in the former case as "Plaintiff's Ex-

(Testimony of Edmund N. Brown.)

hibit 18," for the purpose of showing the types of heaters of the plaintiff, numbered 4 and 5 and 6, and the same was marked "Plaintiff's Exhibit 10."

At this point counsel for defendant, by permission of the Court, offered in evidence a patent which had formerly escaped his attention, copy of U. S. Letters Patent No. 684,459, issued to E. F. Porter, Oct. 15, 1901, and the same is marked "Defendant's Exhibit 'N.'" [64]

Testimony of George J. Henry, for Plaintiff (in Rebuttal).

GEORGE J. HENRY, being duly called as a witness on behalf of plaintiff, testified as follows:

I am 48 years of age and reside at the City and County of San Francisco. I am a mechanical and electrical engineer and patent solicitor. I have been following the profession of mechanical engineer for 26 years; and I have been engaged in designing and manufacturing mechanical and electrical and physical devices over practically all of that period of time. I have taken out a number of patents on inventions of my own. I have practiced before the Patent Office for the last seven or eight years in connection with my professional work. I am a member of the American Society of Mechanical Engineers, American Society of Civil Engineers, associate member of the American Institute of Electrical Engineers. I have examined a great many mechanical devices, including heaters, including electrical devices generally, reported on some of

(Testimony of George J. Henry.)

them, and had a good deal to do with the designing of many devices in this field.

The Morse patent 881,017 of March 3, 1908 (Defendant's Exhibit "F") shows an incandescent electric bulb mounted inside of a reflector, and a wire cage or guard stretched across the reflector in front of the incandescent lamp. The device is labelled "Heating device." The reflector is presumably of hemispherical shape generally, and the lamp is materially out of focus in the curve in figure 1, the wire screen set relatively close to the lamp and well within the reflector. The device is a therapeutical instrument and is intended for that purpose. The invention relates to a device for applying heat to a portion of one's body, and is intended to be used in the practice of therapeutics. It is a small instrument to be taken in one's [65] hand and carried around and applied to any place where you want heat transmitted. It is principally for that purpose. The handle of the incandescent lamp serves as the handle for the device, and also as a socket for the incandescent lamp. It has no standard or anything of that kind, and is for the purpose of concentrating the heat upon the affected parts as you move it around in your hand from one spot to another to apply the heat, apparently by setting it directly over the part itself, not by reflection, but by holding the heat of the bulb within the container.

In the English patent, entitled "Simplex Conduits, Limited" (No. 19,971, application filed Sept. 4, 1913, and accepted Sep. 4, 1914). I find a conical-

(Testimony of George J. Henry.)

shaped container fluted on its outer surface, at least in the preferable form and in all the forms illustrated. It is mounted upon a standard and swivels in any direction, the standard carrying a U-frame which is pivoted to the conical-shaped reflector. The heat element is a long resistance wire wound upon insulating material located about the axis of the cone, but not coincident with the axis. A wire screen is stretched across the front of the conical opening, so that the whole thing has the appearance of a funnel. The device which you now hand me appears to be the device described in the English patent. The interior of the cone is corrugated, made of copper or plated with copper. The wire screen is a wire mesh, what is known in the trade as wire cloth or wire mesh, fixed in an annular frame, which may be slipped over the front of the heat opening of the conical reflector. It is mounted on horizontal trunnions and also on a vertical swivel or trunnion, so that it can be swung in any direction, up or down, or around a vertical axis. That portion of the specification which refers to changing the cone to a parabola, commencing at line 25, page 3 of the specification, reads as follows: [66]

“We have found that a diameter of the large end approximately equal to the depth of the cone gives good results, but the cone angle may be greater or less than that was indicated, or the reflector may be in longitudinal section,

(Testimony of George J. Henry.)

in whole or in part, or of a parabolic or the like contour, according to the form desired for the emergent beam of rays."

With regard to the sufficiency of that disclosure as to instructing a person to make the heater of parabolic shape instead of conical shape, I don't think it is any more specific as regards any other shape than that shown that would be perfectly apparent to anyone in the art. A parabolic reflector to have any useful function, would have to be, as the expert on the other side, Mr. Beam, stated it would have to have its source of heat located at the focus of the parabola; and with the long element that is here shown, I cannot see how a parabola could possibly be effective, for the purpose of directing rays in any better shape than this cone does. After careful reading of the patent, I came to the conclusion that the inventor had in mind, rather, the form of the curve of these inverse flutes rather than substituting a parabolic form of the whole cone. These individual flutes might easily be curved parabolically in such a way that the focus of the parabola, or rather, the focus of the foci of the parabola of a single flute would be coincident with the center of the heat element; but I cannot conceive a parabola in the plane of a heat element as the substitution for this cone which would perform any of the functions of reflection aimed at by the patentee when he says, "You can direct the beam as you choose by changing the shape of the reflector." With such a long heat element, the divergence from

(Testimony of George J. Henry.)

the focus of any single parabola would be so great over most of the portions of the heat element that your emitting area would not be anywhere near a parallel beam; it would be widely divergent from it. I am very sure that the most accurate parabola that could be [67] constructed as a substitute for a curve—and I have in mind now such a parabola as has been presented here as made by the Westinghouse company—such a reflector as that, I am very sure, would get hot and make a divergent beam that would cross a dozen times, probably, in the parabola before it got out, and would make a very wide divergent beam. I am referring to the model made by the Westinghouse Company of the English Simplex patent, or any similar reflector made of parabolic to be this form of heat element and based on any teaching contained in the Simplex patent. The conical fluted type of reflector is the only one shown in the illustration.

Plaintiff then offered in evidence the device representing the English patent testified to by the witness, and the same was marked "Plaintiff's Exhibit 7."

I have examined and understand the Warner patent, No. 1,120,003, dated December 8, 1914, Defendant's Exhibit 4. The device which you now hand me I believe to be the same device as described in this Warner patent. The striking feature of this device when you look at it from the front is the heat element, and its location with respect to the other parts. It is annular in shape and occupies

(Testimony of George J. Henry.)

a large portion of the entire device. The large cage covering it is very prominent in appearance. Of course, if the device were lighted up the incandescent lamp will also be a noticeable feature. There is an incandescent lamp in it, and the lamp is also shown in the model which you have handed me and concerning which I have testified.

Plaintiff then offered in evidence the said device or model referred to by the witness as representative of the Warner patent, and the same was marked Plaintiff's Exhibit 8.

(Witness continuing:) The device which has been put in evidence by defendant and marked Defendant's Exhibit "L" is representative of this Warner patent. I do not consider it a fair representation thereof. It has a very materially [68] different appearance. The same elements are present, and probably function the same way, but they are materially different in size of proportion and respect to each other. The heat element is located much deeper in the reflector than in the first one you handed me. It is also much smaller in cross section relatively, resulting in a very much less prominent appearance. It is the dominating element in the appearance in the patent drawing and also in the heater which you have handed me (Plaintiff's Exhibit 8) as distinguished from Defendant's Exhibit "L."

Referring further to the English Simplex patent, I note that it does not very prominently show in its illustration a guard wire over the front. It

(Testimony of George J. Henry.)

states that it should be fitted with coarse wire mesh or the like, but that does not appear in the illustration, it is not shown in the illustration.

Referring to a model which has been put in evidence by the defendant marked "Defendant's Exhibit 'J,' " as illustrative of the Simplex English patent, I do not consider that the model correctly represents the patent, although it might easily be a construction which one skilled in the art, looking at the Simplex picture and reading the Simplex description, might arrive at a variation. It is materially different from the drawings in the Simplex patent. The heat element is relatively shorter. The reflector is curved and smooth on its inner surface instead of fluted, and is provided with a special form of wire guard, whereas no form of wire guard is illustrated in the Simplex patent.

Cross-examination of G. J. HENRY.

On cross-examination the witness testified as follows: I am a practicing attorney as well as engineer, and at present am associated with Mr. Miller, counsel for plaintiff, [69] in connection with some work. I have stated that the drawing of the Simplex Conduits patent, No. 19,971 of 1913 shows no guard for the heater. I consider that the part marked "H" shown in Figs. 2 and 3 of sheet 1 of the drawing, also in Fig. 7, to be the frame work on which the patentee intends to stretch a wire mesh, which wire mesh is mentioned in the specification. The specification does say on page 3, line 21, "The end of the reflector is fitted with a guard H, to pro-

(Testimony of George J. Henry.)

tect the heating element." Now, if he intended the element H of Figs. 2, 3 and 7 to be the guard for the heating element, then I am at a loss to interpret some of his drawings. Take, for example, Fig. 7: This Figure 7 is "A view similar to Figure 3 of a modification with three heaters." He shows the lines H commencing apparently at the small end of the cone and entirely disconnected in any way from the outer ring; consequently I cannot see, judging from that figure alone, how that can be a guard across the front of the reflector, although it might be a ring inside and around the three elements of Fig. 8. The same testimony applies to the showing in Figure 3. The guard seems to be away inside of the reflector. I find nothing in any of the other figures to clear up such a hiatus. Figure 2 shows the guard H extending apparently all the way from the outer ring and as such it would be a three-wire guard extended across the front of the heater with a circular opening at the center; but it would so radically diverge from the wire mesh mentioned in the body of the specifications, that I am inclined to think he did not mean it as a guard across the front of the heater in the sense of the wire mesh shown, for example, in the model Plaintiff's Exhibit 7. I have criticised the portion of the patent specification relative to the parabolic curvature reflector as not adapted for use with the heater element here shown, [70] on account of the length of the heater element. It has not occurred to me that if the reflector were made more

(Testimony of George J. Henry.)

shallow the heater element would naturally be made shorter to correspond. Quite the contrary. With the type of parabolic reflector shown in Defendant's Exhibit "J," the heat element would be shorter rather than longer. Generally speaking, the shorter the distance between the focal point and the directrix in two parabolas, the less will be the permissible area of volume within which your heat should be generated. In this case of Defendant's Exhibit "J," we have rather an acute parabola, one in which the focus is very deep seated, nearly to the bottom. The result would be that your heat element in such parabolic reflector would be very much smaller proportionately than if the focus were much further forward; in other words, if the parabola were flatter. I take it that it is well within the scope of the presumed knowledge of the designer to proportion these parts to suit the conditions imposed by the laws of heat generation and radiation. If you have any definite set or parts to work to, he could undoubtedly proportion a curve that would be well suited to those particular parts, but my testimony was in reference to a long heat element. In this particular Defendant's Exhibit "J" type of parabola, it is a fact that the heat radiating from the outer portions—I think I am safe in saying that nine-tenths of the outer portions of the heat units upon being received upon the wires by the reflector will be projected inward into the reflector instead of outward. [71]

It was here stipulated that the following testimony given by the witnesses, George J. Henry and Edmund N. Brown, taken in Case No. 493, be copied into the case above with the same force and effect as though originally taken therein, and the said testimony of the said witnesses is as follows:

Testimony of George J. Henry, for Plaintiff (In Case No. 493).

In rebuttal, plaintiff called as a witness GEORGE J. HENRY, who gave the following testimony:

Referring to Defendant's Exhibits "A," "B," "C" and "D," and comparing them with the mechanical structure shown in the patent in suit as to similarities or differences, speaking generally as to all of these exhibits to which you have referred me, they are noticeably distinguished from the Brown mechanical patent in suit, in that the reflector is not a concavo-convex reflector in any sense of the word, as contemplated in the Brown patent. They are all devoid of an annular member extending outwardly from the margin of the reflector. They are all devoid of a focal point or focal area or volume about which the heat element is disposed. For the first and second reasons which I have given, they fail to deliver a radiant beam or a beam of radiant energy which would be sensed as heat by a person in the range of such a beam. On account of the shape of the reflectors in all five of these exhibits, the reflected rays, because, of course, there will be reflected rays

(Testimony of George J. Henry.)

of radiant energy, will criss-cross in various directions, producing an hiatus of impacting beams or rays—not beams—of different intensity at various points, and none of them sufficiently intense to make the heater useful as a beam heater to a body located at any material distance from the heater, itself. With the exception of exhibit 6, they are provided with heat elements, and exhibit 6 is the dish-shaped back only of the heater which was intended to be furnished also with a heat element; the reflector or back, [72] for, really, it is more probably a backing or housing than a reflector in all of these five heaters, as rather a protective shield than a protector. It, of course, does function to some extent as a reflector in exactly the same way that a stone wall functions as a reflector of radiant energy. If one is passing by a stone wall on which bright sunshine is impinging, you at once detect some reflected warmth therefrom, or at least you detect warmth generated by radiant energy reflected therefrom. In this case there is a very large area reflecting rays of radiant energy in all directions, and if you are close to such a surface you will, of course, receive enough of these upon the sensory nerves of the body to experience the sensation of heat; in the same way, if you hold your hand close to one of these heaters in the exhibits now under discussion, you will experience slightly more heat in the front of the heater than you will in the back. Some of this is due to reflection of radiant energy from the interior of the casing, or reflector,

(Testimony of George J. Henry.)

but the form of the reflector in each of these exhibits is such itself, as reflected from different portions of the reflectors themselves, will be very divergent in the aggregate, and in the case of any individual point or ray, it will be in criss-cross, and will, in turn, criss-cross other rays in a way to produce a very highly inefficient radiant emanation. This radiant emanation cannot be called a beam in the sense of that which is producible and is produced by the reflector of the Brown patent, with the heating element arranged about a focus or about an axis on which several foci will lie. In either of the last two instances employing a concavo-convex reflector, that is, one which is curved at every point in such a way that the curve is expressible by a mathematical formula, as is that of a circle, or any of the conic sections and certain other curves; in the case of such a concavo-convex reflector [73] with a heat source or unit mounted about its foci, the emanating rays will be conserved in the shape or form of a beam, whose cross-section will be more or less circular, according to the disposition of the heat unit within the reflector, and the shape of the reflector surface. Such a reflector beam is generated in and emanates from the Brown heater as constructed in accordance with the patent in suit, and likewise from the heater of the defendant's construction. In the reflector of Plaintiff's Exhibit 6, the greater portion of the reflector, or, at least, that which receives the greater portion of the rays emanating from the heat unit, and which,

(Testimony of George J. Henry.)

to be efficient, should be reflected as a beam, is in reality a flat surface. The same applies to the other exhibits, with the exception of Defendant's Exhibit "C," in which there is likewise a flat surface, but not of quite so great proportions. This flat surface will reflect radiant rays in practically every direction. These exhibits are of nickel or of nickered surface, and as such are not nearly as efficient in the reflection of the radiant heat rays. They are all devoid of a cool edge removed from the range of the impact of the radiant rays. They all, being inefficient reflectors, will become quite hot, and the protection of such a rim in their case would be even more necessary than in larger reflectors and of more efficient shape. In the case of exhibit "D," there are two heat elements manifestly out of any central axis, and the construction of such a device as this clearly indicates a total avoidance or lack of appreciation of any reflector rays in which there could possibly be conserving in the form of a beam. I have made tests with heaters of the kind illustrated by these exhibits which are before me with a view of ascertaining their efficiency as compared with the efficiency of the Brown heater. With some of them I found they were grossly [74] inefficient as regards the production of a radiant beam. Radiant beam would be such a beam as would appear of light, for example, in coming through a hole in a roof into a darkened room; sun rays would create a radiant beam; the radiant beam is made up of, presumably,

(Testimony of George J. Henry.)

waves in the ether traveling in perfectly straight lines and at an enormous rate of speed, the same as light; light being one of the manifestations of radiant energy, and of a certain specific wave length. Other wave lengths of radiant energy which do not give us the sensation of light are observable in other devices, or may be made manifest to us by other devices, as for example, that which produces heat. We cannot see the radiant energy which produces heat, but our sensory nerves detect the impact of the waves. For all purposes of ordinary comparison, it is well to think of them just as though they were like rays; that is, they travel in a straight line, they travel at the same rate of speed; they are subject to substantially the laws of optics in that they may be reflected from certain surfaces more than other surfaces. Polished copper is a highly efficient surface for the reflection of radiant heat waves, meaning by that radiant heat energy having a certain range of wave lengths.

Q. Does the Brown heater in suit produce a beam? A. It does, decidedly so.

Q. Is there any utility or advantage in producing that kind of a beam?

A. A very great utility, in that a relatively small consumption of electrical energy may be transformed into heat waves and concentrated at a particular point without making necessary the warming of the entire room, for example. With the Brown heater we have a heater that will keep you comfortably warm in a perfectly cold room;

(Testimony of George J. Henry.)

you can keep all the windows open and still retain a very high degree of efficiency [75] of warmth, attained from a very small consumption of electrical energy. It is quite analogous in receiving qualities, and as different from most forms of heaters to an experience that one would have in walking across a glacier on a very warm summer day, or out on the snow on a very warm day; you feel a decided sensation of warmth, so hot at times you may have to take your coat off, and still the thermometer is at a very low temperature. The reason is that you are receiving a very intense beam of radiant energy from the snow. The same will apply to the Brown heater. A thermometer in a room will show almost no increase of temperature, and yet you can get into a hot perspiration by being within the beam of one of the heaters in a very short space of time; the room itself is not warm, the air is not warm, the other objects are not warm; the warmth is merely the sensation you get from the radiant beam on your body from the reflector of the Brown heater, and, as such, it is the only type of heater that is in this case which will produce the beam. The Westinghouse I consider the same identical type. These other heaters do not produce a beam of heat.

Q. Is there any exhibit in evidence here of the prior art which does produce that kind of a beam?

A. No, there is not, precisely.

Q. Do you consider the production of a beam such as that as being new in Brown so far as the

(Testimony of George J. Henry.)

evidence here shows? A. It certainly was.

Q. That is really the essence of his discovery, then, is it? A. I consider it so.

The Shoenberg patent, which is Defendant's Exhibit "I," does not show anything with reference to this issue here, any further than what is shown by these five exhibits which I have referred to, and my answer in regard to the five exhibits applies also [76] to the Shoenberg patent, No. 1,109,551.

The Morse device (Defendant's Exhibit "F") is one for the purpose of concentrating heat upon a certain portion of the body for therapeutical use, primarily, and is a heat container rather than a heat reflector, the idea of the patent being clearly expressed as intending to conserve the heat within the bowl-shaped member No. 1.

The COURT.—Does that throw a beam, or does it not?

A. I would consider that, if utilized on standards, it would go a little closer to throwing a beam than would the nickel-plated devices and the Shoenberg dish form to which I have testified, but the source of heat is very clearly and materially removed from the focus, and the edges of the reflector are extended over in such a way that most of the beam thrown from the back of the reflector would be interfered with by the side before it ever left the reflector, with the result that you would have a very inefficient reflection of heat rays, and a very material divergence as soon as you got away from the front edge. The purpose of the inventor was

(Testimony of George J. Henry.)

to concentrate his heat along the line corresponding with the flange, numeral 2, and it might be efficient for that, but would not be efficient as a radiant reflector for producing a beam. Defendant's Exhibit "G," Geiger patent, in connection with the model which has been put in evidence as an exemplification of it and marked Defendant's Exhibit "M," is very decidedly different from anything shown in the Brown patent, in that the reflection from that would be spread over a very large surface and of a highly irregular nature. The rays of radiant energy would criss-cross and diverge to a degree exactly the contrary of that desired in a beam heater. It is just the antithesis of a beam heater. Referring to the English patent which has been referred to as the Simplex patent, No. 19,971, a reflector [77] of a form corresponding with the casing or outer sheet of the reflector of this patent would not throw a beam in any sense of the word. Most of the heat rays will be reflected back and forth within the heater device, itself, resulting in heating up the reflector, rather than in securing reflection. The few rays that will be thrown outwardly will be criss-crossed in all directions, doing just the contrary of a beam. The shape of the reflector, the flutes that are in it, its long heat element, and its conical lines, would produce that criss-cross. Referring to the Warner patent, Defendant's Exhibit "H," the same applies to this heater; it will not produce a beam in the sense that I have been employing this term, and as contemplated in

(Testimony of George J. Henry.)

the Brown heater. The object of this and other heaters in the art seems to have been the production of warm air, with the idea that the transference of warm air by convection will do the desired heating. The Brown heater is not intended to produce warm air, it being distinctly a radiant heater as distinguished from the type of heater indicated in the Warner patent. For example, Warner says very clearly, commencing at line 52, page 1 of his specification, "Substantially all the surface of the resistance wire is open to contact with the air, producing a structure in which the heating effect has the greatest possible efficiency, with the result that the device, as a whole, though in a small and readily portable form, is capable of readily heating large volumes of air, making it particularly useful for the heating of rooms."

The manner in which the annulus carrying the resistance is formed and its location, materially away from any focal range, clearly indicates the intent of the patentee was not the employment of a reflecting surface to produce a beam, nor did he produce a reflecting surface, a heat unit which would produce a beam, but, rather, a container or circulating structure [78] about which air would circulate and be heated.

Referring to the Porter patent, Defendant's Exhibit "N," this is an electric fan in which, by the employment of resistance embedded in or upon the blades of the fan the inventor contemplated the warming of air which would pass over the fan

(Testimony of George J. Henry.)

blades when the fan was in operation; the air passing over the blade would become warm and would be thrown out, and by convection would warm objects on which the so heated air would subsequently impinge. It is not a beam heater in the same sense at all as Brown, nor is it a beam heater in any sense.

Q. Referring to this Westinghouse heater, Plaintiff's Exhibit 5, please state whether or not the curved-over outer edge of the reflector that is there shown can be properly termed in mechanics as a bead?

A. I do not so consider it, and in mechanics I would consider the proper term to apply would be a flange. A bead is ordinarily where the metal is turned over on itself, and in intimate contact, without air space between, and, moreover, forms a complete circle or substantially a complete circle. This is a flange in every sense of the word in mechanics, and in the sense of the Brown patent.

Cross-examination.

Mr. CARR.—Q. What is the turned-over edge of the part marked "1" in the drawing of the patent in suit?

A. That is a flange. It is not the entire flange contemplated in the patent, but it is in mechanics a flanged-edge on the reflector 1.

The COURT.—Q. Suppose it were not turned over, what, then, would it be?

A. Do you mean if it were at right angles to the axis?

(Testimony of George J. Henry.)

Q. No. If this were not turned over at all, it would [79] be a flange, would it not?

A. Yes, it would, in mechanics.

Q. Being turned over, what is the turned-over part called?

A. If I were describing that to a workman in metal, I would call it a turned-over flange. In order to describe it fully to him he would have to be given a sketch; whereas, if he were making the reflectors and I instructed him to put a bead on the outer edge, I am sure he would know at once what I meant and would produce a bead on there. Flanges are of various forms, depending on the purpose for which they are intended.

Mr. CARR.—Q. In view of your criticism of what is shown in the Shoenberg patent, No. 1,109,551, please note this language appearing on lines 48 to 53, page 1, specifications.

“The reflector consists preferably of a highly-polished metal shell 1, which is somewhat hemispherical or dome-shaped, and serves to reflect the heat waves received from the heater and direct them outwardly from its inner concave surface.” To your mind, what is the significance of that?

A. That portion of the reflector is of concave form, and does reflect rays outwardly. The edges of the reflectors in the several nickel-plated exhibits, “A” to “D,” and 6, to which I previously testified, all answer that description. That is, a portion of the reflector is of a curved form; that curve does reflect rays outward, but it does not

(Testimony of George J. Henry.)

follow that those rays take the form of a beam, which are collected together in the form of a beam; in fact, they are not in any of these exhibits, or in that patent.

Q. Is there any criss-cross and divergence of heat waves in the operation of the devices of the patent in suit?

A. There is to a small degree, a very small degree compared with the previous art. There is some direction outwardly in the previous art, but to a very small degree. The beam is formed very perfectly in the Brown heater, the device of the [80] plaintiff, so much more perfectly than it is in any of the heaters of the previous art that there is no comparison as regards the utility of that beam form of heater. I know that from very close investigation in experimental work on a great many different forms. I have not made comparative tests of all the heaters which I have been criticising. I have made them of a great many different forms of reflectors. I have made a very close study of the reflection of a radiant energy from a heat unit on various surfaces and under varying conditions, but not with the specific devices I have referred to.

Q. You have mentioned that fact that the devices appearing here as Defendant's Exhibits "A," "B," "C" and "D" have nickel plates; what significance do you attach to that?

A. Two very important points—the first one is very important; I do not consider it as efficient a surface for the reflection of radiant energy. The

(Testimony of George J. Henry.)

second is the question of appearance. I consider that the copper has a very superior appearance to the nickel. It suggests warmth.

Q. So far as the matter of efficiency is concerned, your opinion is based upon test, or theory?

A. Largely theory. I have made no tests on the nickel surfaces that warrant me in saying that.

Q. In the matter of the Plexism heater, a sample of which has been called particularly to your attention during your direct examination, I desire to call your attention to Defendant's Exhibit 8 attached to and forming a part of a deposition on file in this suit, in which appears an illustrative diagram, and the following statement:

"When on circuit the appearance is that of a glowing circle of fire which produces a most cheerful effect of heat rays being thrown forward in a more or less parallel beam in any direction, according to the angle at which the reflector is swiveled." [81]

In view of that, are you still of the opinion that the patent in suit is the first disclosure of the beam type of heater?

A. I certainly am. This reflector that you have referred me to, and particularly the diagram showing the arrows indicating supposititious divergent rays, I will say that in all probability those specific rays will be thrown out from that form of reflector, and that form of heater, but that is about all of the rays that will be thrown out, a very, very small percentage of the total heat. The rays that come from every other point on that long heat-gener-

(Testimony of George J. Henry.)

ating unit will be thrown at all kinds of angles, every possible angle. So that the actual rays which will emanate from there in an axial direction are but a small percentage of the total that I am convinced more than ever that that form of reflector would be inefficient for the production of a beam. There is no question but that the man wanted to produce a beam, but he did not do it in this form of reflector, or in that form of heater. He would have to get up pretty close to that to feel the radiant energy. That is my opinion, with a given quantity of electrical energy expended, you will have to get up pretty close to that, with a Shoenberg form of heater, to feel the radiant beam. It will probably generate as much heat—there is no question about that, as Mr. Bean pointed out, but that heat will not be directed in the form of a beam with a sufficient efficiency to warrant calling that form of heater a beam heater. It will get hot itself, it will heat the air around it locally a little bit, and heat will be extending that way; but in the Brown form of heater, the idea was and the result was that a larger percentage of that heat is gathered and thrown out in the form of a beam as radiant energy. This diagram which you have handed me is highly misleading; it is purely an advertising stunt; it is a salesman's idea of how to present a thing to the public and get them [82] to buy, and I have no doubt he put it over. But it is as misleading as a diagram could be as regards the rays that emanate from the inside of that form of heater in action.

(Testimony of George J. Henry.)

Q. That is, you would put it in the same class with the Majestic heaters that preceded the No. 1?

A. Generally speaking, as regards inefficiency in the production of a radiant beam, yes. The man who made this diagram undoubtedly drew his lines backward; he started out with straight line indicating an emanating beam which he wanted to obtain; he came back on to one spot of his reflector; then he made his angle of incidence equal to his angle of reflection, and found that would fall on the heat element at a certain spot, and he argues that that is the spot that reflects that beam. Well, it does. But what happens to all of the reflected rays from the other spots on that heat element; it is a great, long heat element, and every point on that heat element is impinging rays on the same identical spot on the reflector, and they are going in every possible direction. It shows a total misconception of the construction of a reflector and a heat unit to produce a radiant beam.

Q. Your contention then is, as I understand it, that the Brown No. 7 heater embodies a concavo-convex reflector, and that nothing prior to that did?

A. No, I didn't say that at all. My answer was very clear, that it embodied a concavo-convex reflector with a heat-generating unit about the focus or focal range of that reflector, and that as such I consider it the first in the art to produce an efficient radiant beam.

Q. When you say "about," you mean projecting through, do you?

(Testimony of George J. Henry.)

A. I meant just exactly what I said, "around." The focus falling within the heat unit is what I meant.

The COURT.—Q. Would that be true of the Warner patent?

A. No, it would not be true of the Warner at all.
[83]

Q. Why isn't the heating element around the focus there?

A. I say the focus falling within the heating element. In the Brown patent we have a heating element like this, the focal point falls within that range.

Q. I was trying to get the sense in which you used the word "around" or "within."

A. Within the range of heat generation. The heat generation is off in here. It is a circle in this case.

Q. If that circle were closed, then it would fall within your definition?

A. If it were all like this, yes. You mean if all this in here were closed up and all generating heat?

Q. Yes. A. That would be true.

Mr. CARR.—Q. Is that true of the defendant's heater, in your opinion? A. Is what true?

Q. I mean, is it true that the focus of the reflector falls within the heat element?

A. It does. The focal range does for a radiant beam. What you probably have in mind is this, Does the center of the circle which forms the reflector fall within the heat unit?

(Testimony of George J. Henry.)

Q. That is the focus, isn't it?

A. No, it is not, in any sense of the word.

The COURT.—Q. I want to ask one question. Should I desire to experiment with these various devices by the use of light, as I understand you, the laws of light are substantially the same as the laws of this radiant heat energy?

A. As regards reflection, yes.

Q. In other words, if they would throw a beam of light, they would throw a beam of heat energy.

A. Yes; in that case your light source should be the same size and position as the heat source. If we think of these utilizing light in place of the heat unit, it is true that in every one of them you will get light reflections from your reflector. In the Plexism, you [84] would get a decided light reflection, but if you will get off materially to one side you will also get your light reflections, by which is indicated that heat beams will also come very much to one side. If you take the form of the Brown and of the Westinghouse and stand in front of it with a source of light here, and the heat unit, by itself, will produce a source of light for you—it is the way to try them out; you will see the whole flowing bowl in each case at a material distance away in line with the beam, in line with the axis; if you get a little bit to one side that disappears very rapidly, showing the light rays, and, therefore, the heat rays; they will diminish very rapidly as you get off to one side. In the case of the Brown, if you will set that 9 feet from you and then move at definite points at

(Testimony of George J. Henry.)

right angles to that axis 1, 2, 3, 4 and 5, feet from the center, you will find that your heat beam is growing slightly weaker; but at a distance of 2, 3, 4 and 5 feet you will find that it is over 100 per cent more efficient than the Westinghouse, due to the flattening out of the beam. At the center, at points of 1 and 2 feet from the axis, you will find that the Westinghouse will be more intense; it will fall off more rapidly, due to the differing positions of the heat unit. But in both cases you will get a decided heat beam 10 feet in diameter, or 10 feet wide, I will say, at a distance of 9 feet from the unit.

Q. Suppose you were to put an ordinary light bulb in one of the Shoenberg patent devices at the point where the heat element is now installed, would it or would it not show a distinct spot of light upon the wire, say 10 or 15 feet away?

A. It would not.

Q. But it would in the No. 7 or the Westinghouse?

A. It would. That would be a very nice way to test it.

Q. Why couldn't you read the reflector in the Majestic device, No. 7 into the patent claims of the Shoenberg patent, where [85] it says a hemispheric dome-shaped reflector; that is, suppose you put aside these separate devices and just took the patent alone, I mean. I understand that counsel for the defendant read those terms from the patent.

A. The only claim, your Honor, that mentions that is claim 6:

(Testimony of George J. Henry.)

“A dome-like reflector, having inner and outer members held in spaced relation by providing a chamber or channel between—” and so on.

I can only say that I don't believe that the patentee had in mind the use of a reflector with a heat element substantially at or around the focal point of any particular curve which would produce a radiant beam. He does not speak of a radiant beam. He has in mind the throwing out of radiant rays.

Q. But it does not say so in the patent in suit?

A. Not as a radiant beam. He spoke of it as radiant type of heater.

Q. What I am trying to get at is your view as to whether or not you could claim this particular structure now in suit, which is No. 7, under the Shoenberg patent? A. I doubt it.

Q. Why not?

A. Because I don't think the teaching is sufficient in the Shoenberg patent.

Q. Is this hemispheric, or dome-like, or not?

A. You can employ a hemispherical form, or dome-like form, if you place your element at the proper point in it to secure thereby a beam; but there is no suggestion in the Shoenberg patent of the recognition of any heat center or focus.

Q. Not in the Shoenberg patent?

A. No, sir; I don't find any.

The COURT.—What is there in the patent in suit?

(Testimony of George J. Henry.)

Mr. MILLER.—(Line 48, page 1, reading from the Shoenberg patent): “The reflector consists preferably of a highly-polished metal shell, 1, which is somewhat hemispherical or dome-shaped.” [86]

The WITNESS.—The word in these “somewhat” is thoroughly consistent with his drawing, which shows only part of the reflector made curved and the back portion of it flat.

The COURT.—Q. In the patent in suit, what is there to indicate the location of the heating element?

A. It is mentioned in the claims, themselves, in one place. I will find it in just a moment. Take claim 1:

“An electric heater, comprising a concavo-convex reflector, a heating unit supported at substantially the focus of said reflector.”

Line 33: “In spaced relation with the reflector, 1, and preferably at the focus of its curved surface.”

The whole patent is based upon the theory of using a heat-emanating source at the focus of a curved reflector for the purpose of producing a radiant type of heater. For example, it says at line 9: “This invention relates to electric heaters in which the heat waves”—the use of the word “waves” is significant of radiation,—“are generated by a resistance coil or heating unit, and are then reflected from a highly polished surface.”

It was old in the art to employ reflectors for light,

(Testimony of Edmund N. Brown.)

locomotive headlights, and things of that nature, but no one had used it for heat as a radiant beam. That is my belief.

Testimony of Edmund N. Brown, for Plaintiff (In Case No. 493.)

EDMUND N. BROWN was then called by plaintiff in rebuttal and testified as follows:

After we put out our No. 7 on the market, other manufacturers put upon the market styles of electric heaters which they had not been marketing previously to our No. 7 appearing. The first of these was the Hotpoint, a sample of which was marked "Plaintiff's Exhibit No. 3." After our No. 7 appeared, the defendant put on the market a heater represented [87] by the Westinghouse heater here in evidence. Other manufacturers put heaters on the market. I herewith produce the heaters themselves. We have a laboratory full of them down town. Here is one put out by the Simplex Heating Company, the same being sold by Holbrook, Merrill & Stetson as jobbers in San Francisco. They appeared in the fall of 1918 after our No. 7 had been put on the market. The firm of Landers, Frary & Clark also put out a heater of that type, and I herewith produce a sample thereof. The Rutenber Electric & Mfg. Co. also put out a heater of that type, and I herewith produce one. The Estate Stove Company of Hamilton, Ohio, also put out a heater of that type and I herewith produce a sample of the same. The General Electric, which is

(Testimony of Edmund N. Brown.)

now amalgamated with the Hotpoint and Hughes Company under the Edison Electric Appliance Company also put out a heater of that type. The Hotpoint Company was afterwards absorbed by the Edison Company. The General Electric put out one type of heater and the Hughes Company another type, and the Hotpoint another type. Plaintiff's Exhibit No. 4 was put out by the Hotpoint Company.

Cross-examination of Witness BROWN.

The manufacturers whose names I have just mentioned advertised their product pretty lively. The Hotpoint Company was a pretty big advertiser in everything. They advertised very liberally. They advertised in the Saturday Evening Post and some National Magazines; we advertised in the newspapers, and through circular matter, and at Expositions, Fairs, etc. Since these suits have been started, Landers, Frary & Clark have practically taken their heaters off the market so I have been informed by the jobbers, and their advertising has practically ceased. I don't think the Rutenber people are doing any advertising to speak of. I have not seen as much advertising by the Estate Stove Co. this year as I formerly did.

JOHN H. MILLER,

Atty. for Plff.

[Endorsed]: Filed Dec. 17, 1920. W. B. Maling,
Clerk. By J. A. Schaertzer, Deputy Clerk. [88]

In the Southern Division of the United States District Court for the Northern District of California, Second Division.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

Plaintiff's Petition for an Order Allowing Appeal from Order and Decree of October 4, 1920, and from the Final Decree of November 1, 1920.

Plaintiff in the above-entitled case feeling itself aggrieved by the order and decree heretofore made and entered in the minutes of the Court on October 4, 1920, whereby it was ordered that the bill of complaint be dismissed, and that a decree be signed, filed and entered accordingly, and feeling itself aggrieved by the final decree heretofore made and entered in the case on November 1, 1920, wherein and whereby it was ordered, adjudged and decreed that the plaintiff's bill of complaint be dismissed with costs to the defendant, which said decree was signed by Hon. Robert S. Bean, United States District Judge.

Comes now into court by its counsel and prays the Court for an order allowing it to prosecute an appeal from the said order and decree of October

4, 1920, and from said final decree of November 1, 1920, to the Honorable United States Circuit Court of Appeals for the Ninth Circuit under and pursuant [89] to the laws of the United States in that behalf made and provided, and that an order be made fixing the amount of security of costs and damages which said plaintiff shall give and furnish on said appeal, and that upon said security being given, all further proceedings in this court and the issuance of execution be suspended and stayed until the final disposition of said appeal by the said United States Circuit Court of Appeals for the Ninth Circuit.

And your petitioner will ever pray, etc.

JOHN H. MILLER.

Attorney for Plaintiff.

Dated: November 17, 1920. [90]

In the Southern Division of the United States District Court for the Northern District of California, Second Division.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

Order Allowing Appeal of Plaintiff from Order and Decree of October 4, 1920, and from the Final Decree of November 1, 1920.

Plaintiff in the above-entitled suit having filed its petition for an order allowing an appeal from the order and decree made and entered in the minutes of the Court on October 4, 1920, and from the final decree made and entered in the case on November 1, 1920, accompanied by an assignment of errors:

NOW, THEREFORE, on motion of John H. Miller, Esq., attorney for plaintiff, it is

ORDERED that the said petition be and the same is hereby granted, and the plaintiff is hereby allowed to take an appeal to the United States Circuit Court of Appeals for the Ninth Circuit, from the order and decree made and entered on the minutes of this court on October 4, 1920, whereby it was ordered that the bill of complaint be dismissed with costs to the defendant, and that a decree be signed, filed and entered accordingly, and also from the final decree made and entered in the above-entitled case on November 1, 1920, [91] wherein it was ordered, adjudged and decreed that the plaintiff's bill of complaint be dismissed with costs to the defendant.

And it further appearing that the plaintiff has prayed for a supersedeas and stay of execution of said decree pending said appeal.

IT IS ORDERED, ADJUDGED AND DECREED that the amount of security to be furnished

by the plaintiff for damages and costs be and the same is hereby fixed at the sum of five hundred (\$500.00) dollars, and that upon the plaintiff furnishing and giving and filing with the clerk of the court the aforesaid bond, for damages and costs on appeal, in the sum of five hundred (\$500.00) dollars, conditioned as required by law, all further proceedings in this court and the issuance of execution be and they are hereby suspended and stayed until the final determination of said appeal by the said United States Circuit Court of Appeals for the Ninth Circuit.

And it is further ORDERED, ADJUDGED AND DECREED that upon the giving of the bond aforesaid conditioned according to law, a certified transcript of the records and proceedings herein be forthwith transmitted to the said United States Circuit Court of Appeals for the Ninth Circuit.

Dated: Nov. 17, 1920.

(Sgd.) R. S. BEAN,
U. S. District Judge.

[Endorsed]: Filed Nov. 17, 1920. W. B. Maling,
Clerk. By J. A. Schaertzer, Deputy Clerk. [92]

In the Southern Division of the District Court of
the United States, for the Northern District of
California, Second Division.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY,

Defendant.

**Plaintiff's Assignment of Errors on Appeal from
Order and Decree Entered in the Minutes Octo-
ber 4, 1920, and Final Decree Made and Entered
November 1, 1920.**

Now comes plaintiff herein by its counsel and specifies and assigns the following as the errors on which it will rely upon its appeal to the United States Circuit Court of Appeals for the Ninth Circuit from the order and decree made and entered in the minutes of the court on October 4, 1920, whereby it was ordered that the bill herein be dismissed with costs to defendant, and that a decree be signed, filed and entered accordingly, and from the final decree made and entered in the above-entitled case on November 1, 1920, whereby it was ordered, adjudged and decreed that the bill of complaint be dismissed with costs to the defendant to be taxed, viz.:

1. Error of the Court in making and entering the order and decree of October 4, 1920, whereby it was ordered that the bill of complaint be dismissed, and that a decree be signed, filed and entered accordingly. [93]

2. Error of the Court in making and entering its final decree of November 1, 1920, wherein and whereby it was ordered, adjudged and decreed that the plaintiff's bill of complaint be dismissed with costs to the defendant to be taxed.

3. Error of the Court in ordering, adjudging and decreeing that the plaintiff's bill of complaint be dismissed.

4. Error of the Court in holding that the patent in suit does not extend to the supporting stand or pedestal.

5. Error of the Court in holding that the design of the patent in suit relates to the reflector and the protective devices viewed in connection with the attendant heater element.

6. Error of the Court in holding that the patent in suit was not infringed by the defendant's devices.

7. Error of the Court in holding that the defendant's devices are neither reproductions nor colorable imitations of the design patent in suit.

8. Error of the Court in holding that there are points of resemblance between the device of the patent in suit and the common telephone and electric fan.

9. Error of the Court in holding that there are two important differentiating features between the

design patent in suit and the design of the defendant.

10. Error of the Court in holding that the turned over edge of the defendant's reflector in so far as affects the appearance is wholly dissimilar to the broad annular flange of the patent in suit.

11. Error of the Court in holding that the broad annular flange is a conspicuous differentiating feature of the design patent in suit. [94]

12. Error of the Court in holding that upon the testimony of one of the plaintiff's witnesses who first observed the Westinghouse heater upon passing the show window where it was displayed, shows that the outstanding feature in appearance of plaintiff's device was the heater element.

13. Error of the Court in holding that the design of the patent in suit is entirely void of purely ornamental features either in form or drapery.

14. Error of the Court in holding that the design of the patent in suit is a nude utility.

15. Error of the Court in holding that the design of the patent in suit is a bare mechanism, no part or parts or lines of which can be dispensed with or substantially altered without impairing its utility.

16. Error of the Court in holding that one cannot under the cover of a design patent debar others from employing the mechanical means necessary to give effect to a known and useful mechanical principle, however pleasing to the eye such requisite mechanism may be.

17. Error of the Court in holding that unless limited to the precise form illustrated in the draw-

ing of the patent in suit, plaintiff's design is anticipated in prior patents.

18. Error of the Court in holding that unless the design of the patent in suit is limited to the precise form illustrated in the drawing, the design is without invention.

19. Error of the Court in holding that the design of the patent in suit is anticipated.

20. Error of the Court in holding that the design of the patent in suit is without invention.

21. Error of the Court in holding that the casing shown in plaintiff's patent is simply a reflector of the most [95] familiar type, old in the art, and without novelty either in configuration or feature.

22. Error of the Court in holding that the contrast between the design patent in suit and the design as actually manufactured by plaintiff under the Shoenberg patent is but the contrast of material, color and size, and not of form.

23. Error of the Court in holding that if prior designs manufactured by the plaintiff and the design of the patent in suit were both made of nickel or copper, there would be a similarity instead of a contrast between the two.

24. Error of the Court in holding that in the absence of contrasting color or size, there is a striking similarity in general appearance between the design of the patent in suit and the design previously manufactured by plaintiff under the Shoenberg patent.

25. Error of the Court in holding that the design of the patent in suit is shown and disclosed by the photograph of plaintiff's exposition exhibit.

26. Error of the Court in holding that the design of the patent in suit is almost identical with that shown in Fig. 1 of the English patent to Taylor, No. 102,070.

27. Error of the Court in considering or giving any effect whatever to the alleged English patent of Taylor, No. 102,070.

28. Error of the Court in holding that the alleged date of application for the alleged English patent to Taylor, No. 102,070, stated to be January 11, 1916, could be considered or have any effect in this case.

29. Error of the Court in holding that the alleged English patent to Taylor, No. 102,070, was applied for on January 11, 1916.

30. Error of the Court in holding that the alleged English patent to Taylor, No. 102,070, was issued November 15, 1916. [96]

31. Error of the Court in quoting from the alleged English patent of Taylor, No. 102,070.

32. Error of the Court in holding that the design in the patent in suit closely resembles the Warner device.

33. Error of the Court in holding that the design of the patent in suit closely resembles the parabolic "Simplex."

34. Error of the Court in holding that the design of the patent in suit closely resembles the "Fer-ranti Fires."

35. Error of the Court in holding that in the period of four or five years immediately preceding the patent in suit an unusual or widespread interest in the matter of electric heating had arisen.

36. Error of the Court in holding that the invention of the nichrome wire solved the problem of a dependable and efficient element.

37. Error of the Court in holding that the right to use the nichrome wire was involved in the litigation which was not finally concluded until about the time of the Brown patent in suit.

38. Error of the Court in holding that it was because of the invention of nichrome wire that heaters were put on the market in increasing numbers.

39. Error of the Court in holding that it was because of advertising and the arts of salesmanship that the desire for such heaters was greatly stimulated.

40. Error of the Court in holding that the plaintiff was to some extent the beneficiary of the activities of its competitors.

41. Error of the Court in holding that the attractiveness of the design of the patent in suit was due, not so much to slight changes in form as to increase in size and [97] more particularly in substitution of the warm copper bowl with suitable trimmings in place of the nickel type of heater.

42. Error of the Court in holding that the widespread use of the design of the patent in suit was due in part to changes in social and housing conditions or the rapidly growing tendency to use electrical energy for divers purposes in the home.

43. Error of the Court in holding that the widespread use of plaintiff's design cannot be attributed to a slight change in the contour of the reflector.

44. Error of the Court in holding that the widespread use of the design of the patent in suit was

due to the causes or any of them specified in the opinion of the Court.

45. Error of the Court in that its decree is not supported by the evidence.

46. Error of the Court in that its decision and decree is contrary to the evidence.

47. Error of the Court in its failure to give effect to the testimony produced by the plaintiff showing confusion in the trade, and deception of persons of ordinary intelligence taking the defendant's heater as and for the plaintiff's heater.

48. Error of the Court in failing to give effect to the testimony of the witness Labatt in respect of confusion in the trade and deception caused by defendant's heater.

49. Error of the Court in failing to give effect to the testimony of J. R. Hiller in respect of confusion in the trade and deception caused by the defendant's heater.

50. Error of the Court in failing to give effect to the testimony of G. L. Wentworth in respect of confusion in the trade and deception caused by the defendant's heater. [98]

51. Error of the Court in entering its order and decree in the minutes on October 4, 1920, through and by Honorable Maurice T. Dooling, the District Judge who was then presiding, whereas the case was tried by and before Frank S. Dietrich, U. S. District Judge of Idaho, and the written opinion in the case was rendered by him.

52. Error of the Court in making and entering its order and decree of October 4, 1920, through and by Honorable Maurice T. Dooling, District Judge

presiding, whereas the case was tried by and before Honorable Frank S. Dietrich, U. S. District Judge of Idaho, who had been specially designated to act as a trial judge for the Northern District of California only for the months of August and September, 1920, and such authority and commission expired on the last day of September, 1920.

53. Error of the Court in making and entering its decree of November 1, 1920, through Robert S. Bean, District Judge, whereas the case was tried by and before Honorable Frank S. Dietrich, United States Judge of Idaho, who had been designated and appointed to hold United States District Court for the Northern District of California during the months of August and September, 1920, only, and his authority and commission expired on the last day of September, 1920. [99]

NOW, THEREFORE, in order that the foregoing assignments of error may be and appear of record, the plaintiff presents the same to the Court and prays that the same may be filed and such disposition be made thereof as is in accordance with the laws of the United States in that behalf made and provided, and prays that said final decree be reversed, and that the District Court of the United States for the Northern District of California, Second Division, be directed to enter an interlocutory decree in favor of the plaintiff and against the defendant in the usual manner and form, adjudging and decreeing the validity and infringement of claim 1 of the patent in suit, and enjoining any further infringement thereof, and referring the

case to a Master in Chancery for an accounting of damages and profits. All of which we respectfully submit.

Dated: November 17, 1920.

JOHN H. MILLER,
Attorney for Plaintiff.

[Endorsed]: Filed Nov. 17, 1920. W. B. Maling,
Clerk. By J. A. Schaertzer, Deputy Clerk. [100]

In the Southern Division of the United States Dis-
trict Court for the Northern District of Cali-
fornia, Second Division.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY,

Defendant.

Order Allowing Withdrawal of Original Exhibits.

Good cause appearing, on motion of John H. Miller, Esq., counsel for Majestic Electric Development Company, plaintiff in the above-entitled suit.

IT IS ORDERED that all of the original exhibits offered in evidence in the above-entitled cause may be withdrawn from the files of the above-entitled court and from the clerk thereof, and be by said clerk transmitted to the United States Circuit Court

of Appeals for the Ninth Circuit, as a part of the record on appeal of the plaintiff herein to said Circuit Court of Appeals, from the order and decree made and entered in the minutes on the fourth day of October, 1920, and the final decree made and entered on the first day of November, 1920, which said original exhibits are to be returned to the files of this Court upon the determination of said appeal by the said Circuit Court of Appeals.

Dated Nov. 23d, 1920.

(Sgd.) R. S. BEAN,
Judge U. S. District Court.

[Endorsed]: Filed Nov. 24, 1920. Walter B. Maling, Clerk. [101]

In the Southern Division of the United States District Court for the Northern District of California, Second Division.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

Bond on Appeal.

KNOW ALL MEN BY THESE PRESENTS:
That American Surety Company of New York, a

corporation organized and existing under and by virtue of the laws of the State of New York and duly licensed to transact a suretyship business in the State of California, is held and firmly bound in the penal sum of Five Hundred Dollars (\$500.00) to be paid to the Westinghouse Electric & Manufacturing Company, defendant, its successors or assigns, for which payment, well and truly to be made, the American Surety Company of New York binds itself, its successors and assigns firmly by these presents.

The condition of the foregoing obligation is such that,

WHEREAS the Majestic Electric Development Company, plaintiff in the above-entitled suit, has taken or is about to take an appeal to the United States Circuit Court of Appeals for the Ninth Circuit to reverse the order and decree made and entered on October 4, 1920, and the final decree made and entered on November 1, 1920, by the District Court of the United States [102] for the Northern District of California, Second Division, in the above-entitled suit, whereby plaintiff's bill of complaint was dismissed with costs to defendant.

NOW, THEREFORE, the conditions of the foregoing obligation is such that if the said Majestic Electric Development Company shall prosecute its said appeal to effect and shall answer all damages and costs, if it shall fail to make its plea good, then this obligation shall become void; otherwise to remain in full force and effect.

Dated at San Francisco, California, November 17th, 1920.

AMERICAN SURETY COMPANY OF
NEW YORK.

By D. ELMER DYER,
Resident Vice-president.

[Seal]

Attest: E. C. MILLER,
Resident Asst. Secy.

Approved Nov. 19, 1920.

R. S. BEAN,
Judge.

[Endorsed]: Filed Nov. 19, 1920. W. B. Maling,
Clerk. By J. A. Schaertzer, Deputy Clerk. [103]

(Title of Court and Cause.)

Praeipie for Transcript of Record.

To the Clerk of the United States District Court:

Please prepare transcript of record on appeal from the final decree in the above-entitled suit, and incorporate therein the following, viz.:

1. Bill of complaint.
2. Final amended answer.
3. Order designating Judge Dietrich to hold court in the Northern District of California.
4. Opinion of Judge Dietrich.
5. Minute order of October 4, 1920.
6. Final decree of November 1, 1920.
7. Statement of evidence.
8. Petition for order allowing appeal.
9. Assignment of errors.

10. Order allowing appeal.
11. Order allowing withdrawal of exhibits.
12. Bond on appeal.
13. Citation.

JOHN H. MILLER,
Attorney for Plaintiff.

Dated November 23d, 1920.

Service of the within praecipe for transcript on appeal admitted this 23 day of November, A. D. 1920.

D. L. LEVY,
W. SHELTON,
Attorneys for Defendant.

[Endorsed]: Filed Nov. 23, 1920. W. B. Maling, Clerk. By J. A. Schaertzer, Deputy Clerk. [104]

In the Southern Division of the United States District Court, in and for the Northern District of California, Second Division.

No. 544.

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Plaintiff,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY,

Defendant.

**Certificate of Clerk U. S. District Court to Transcript
of Record.**

I, Walter B. Maling, Clerk of the District Court of the United States, in and for the Northern District of California, do hereby certify the foregoing one hundred four (104) pages, numbered from 1 to 104, inclusive, to be full, true and correct copies of the records and proceedings as enumerated in the praecipe for transcript of record, as the same remain on file and of record in the above-entitled cause, and that the same constitute the record on appeal to the United States Circuit Court of Appeals for the Ninth Circuit.

I further certify that the cost of the foregoing transcript of record is \$45.95; that said amount was paid by John H. Miller, Esq., attorney for plaintiff; and that the original citation issued herein is hereunto annexed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said District Court this 29th day of December, A. D. 1920.

[Seal] WALTER B. MALING,
Clerk United States District Court for the Northern District of California. [105]

Citation.

UNITED STATES OF AMERICA,—ss.

The President of the United States, to Westinghouse Electric & Manufacturing Company,
GREETING:

You are hereby cited and admonished to be and appear at a United States Circuit Court of Appeals for the Ninth Circuit, to be holden at the city of San Francisco, in the State of California, within thirty days from the date hereof, pursuant to an order allowing an appeal, of record in the clerk's office of the United States District Court for the Northern District of California, Second Division, wherein Majestic Electric Development Company, is appellant, and you are appellee, to show cause, if any there be, why the decree rendered against the said appellant, as in the said order allowing appeal mentioned, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

WITNESS, the Honorable ROBERT S. BEAN, United States District Judge for the District of Oregon, designated to hold and holding the District Court of the United States, for the Northern District of California, this 19th day of November, A. D. 1920.

R. S. BEAN,
United States District Judge. [106]

Received a copy of the within Citation on Appeal this 23d day of November, 1920.

D. L. LEVY,
W. SHELTON,

Attorneys for Defendant.

[Endorsed]: No. 544. United States District Court for the Northern District of California. Majestic Electric Development Co., Appellant, vs. Westinghouse Electric & Mfg. Company. Citation on Appeal. Filed Nov. 23, 1920. W. B. Maling, Clerk. By J. A. Schaertzer, Deputy Clerk.

[Endorsed]: No. 3618. United States Circuit Court of Appeals for the Ninth Circuit. Majestic Electric Development Company, a Corporation, Appellant, vs. Westinghouse Electric & Manufacturing Company, a Corporation, Appellee. Transcript of Record. Upon Appeal from the Southern Division of the United States District Court for the Northern District of California, Second Division.

Filed December 29, 1920.

F. D. MONCKTON,
Clerk of the United States Circuit Court of Appeals
for the Ninth Circuit.

By Paul P. O'Brien,
Deputy Clerk.

United States Circuit Court of Appeals for the
Ninth Circuit.

MAJESTIC ELECTRIC DEVELOPMENT COM-
PANY,

Appellant,

vs.

WESTINGHOUSE ELECTRIC & MANUFAC-
TURING COMPANY,

Appellee.

**Order Extending Time to and Including January
20, 1921, to File Record on Appeal and Docket
the Cause.**

Good cause being shown, it is hereby ordered that the appellant in the above-entitled suit may have to and including the 20th day of January, 1921, within which to file the record on appeal and to docket the cause in the United States Circuit Court of Appeals for the Ninth Circuit.

Dated December 20, 1920.

W. H. HUNT,
Circuit Judge.

[Endorsed]: No. 3618. United States Circuit Court of Appeals for the Ninth Circuit. Order Under Subdivision 1 of Rule 16 Enlarging Time to and Including Jan. 20, 1921, to File Record and Docket Cause. Filed Dec. 20, 1920. F. D. Monckton, Clerk. Refiled Dec. 29, 1920. F. D. Monckton, Clerk.

No. 3618

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,

Appellant,

VS.

WESTINGHOUSE ELECTRIC & MANUFACTURING
COMPANY,

Appellee.

APPELLANT'S OPENING BRIEF.

[DESIGN PATENT No. 51253, ELECTRIC HEATER CASING.]

JOHN H. MILLER,

Attorney for Appellant.

FILED

FEB 23 1921

F. D. MONKTON,

CLERK.

No. 3618

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

MAJESTIC ELECTRIC DEVELOPMENT COMPANY,
Appellant,

VS.

WESTINGHOUSE ELECTRIC & MANUFACTURING
COMPANY,
Appellee.

APPELLANT'S OPENING BRIEF.

[DESIGN PATENT No. 51253, ELECTRIC HEATER CASING.]

This case involves design patent No. 51,253, granted on September 11, 1917, to Edmund N. Brown, assignor to the Majestic Electric Development Company, the appellant, for an electric heater casing. It is a companion case to case No. 3616, already argued in this court. The two cases were tried consecutively in the lower court.

Case No. 3616 involved design patent No. 51,043, issued to the same inventor. The applications for the patents were pending in the Patent Office at the same time. The first mentioned design was applied for on May 28, 1917, and issued July 17, 1917. The present

design was applied for on July 10, 1917, and issued on September 11, 1917.

The mechanical difference between the two designs resides principally in the fact that in design patent 51,043, there is an annular flange around the edge of the reflector, whereas in design 51,253 that flange is omitted, and its place supplied by a beading of metal.

In both cases the alleged infringing device is the same, it being contended by appellant that said alleged infringing device is an infringement of both designs.

In case 3616 the lower court held that the appellee's device was not an infringement, but did not hold that the patent was invalid. In the case at bar the lower court held that the patent No. 51,253 was invalid, and, therefore, it was unnecessary to discuss the question of infringement. If patent 51,253 be valid, then it follows conclusively that infringement exists. A casual glance at the two devices is sufficient to prove this contention. Therefore, on this appeal we are concerned only with the question of validity of the patent 51,253, and that is the only question before this court.

This case was tried immediately after the trial of the cases 3616 and 3617 (the first involving design patent 51,043 and the latter involving the Brown mechanical patent, No. 1,245,084). The opinion of the lower court is an omnibus one in respect of all three patents, and appears between pages 19 and 33 of the record. That portion of the opinion relating to the two design patents begins in the middle of page 27, and the portion of the opinion relating specifically to the

patent now under consideration begins in the middle of page 29.

The opinion of the lower court holds that the patent in suit is invalid (1) by reason of want of invention, and (2) by reason of anticipation.

As to Want of Invention.

In the first place it seems to be the view of the lower court that this patent 51,253 is void for want of invention because of the existence of Brown's other design patent, 51,043. While there is no express statement to that effect in the opinion, nevertheless it was urgently insisted on by counsel for appellee at the trial, and we have no doubt that it played an important part in influencing the court's opinion. The theory of appellee in this respect is that Brown's patent 51,043, is a prior patent to the one in suit, and must be considered as a part of the prior art, and that the mechanical differences between the two patents are that the first one has an annular flange, whereas the second one omits that flange. Therefore, the contention is that it required no invention to omit the flange, and perforce the patent is void. This is an erroneous view to take of the controversy.

The two inventions were contemporaneous and were pending in the Patent Office at the same time. Consequently, patent 51,043, though issued shortly before patent 51,253, is no part of the prior art as to 51,253. It is settled law that as between co-pending applications by the same inventor covering analogous struc-

tures, neither of the patents when issued can be used in anticipation of the other or as limiting the other.

Century Co. v. Westinghouse, 191 Fed. 352;

Anderson v. Collins, 122 Fed. 458;

Graham v. Geneva Lake Co., 11 Fed. 141;

Graham v. McCormick et al., 11 Fed. 863;

Westinghouse v. Dayton, 106 Fed. 724 (affirmed in 118 Fed. 562);

Ide v. Trorlicht, 115 Fed. 145.

Such is the case now in hand. Brown made two inventions simultaneously and filed two applications for said inventions. Both applications were on file in the Patent Office at the same time. The Patent Office had both of them under consideration at the same time, and in due and regular course issued patents for each of them. The fact that one was issued a few days before the other does not make it a prior patent or a part of the prior art as to the other. Therefore, if the ruling of the lower court was based on appellee's argument that patent 51,043 is an anticipation of 51,253, such ruling was an error.

But the main ground relied on in the opinion of the lower court as showing want of invention is that the patent is void because the device has no surface ornamentation. When considering these designs, the lower court used this language, beginning at the bottom of page 28 of the record:

“But in the second place, in so far as they are alike, the plaintiff's casings, as well as those of the defendants, are entirely devoid of purely ornamental features, either of form or drapery; they are nude utilities. That,

of course, is not to say that they are without comeliness. By reason of their simplicity and symmetry and the 'glow', they may be pleasing to the eye; but the point is that they are bare mechanisms, no part or lines of which can be dispensed with or substantially altered without impairing their utility, and one cannot, under cover of a design patent, debar others from employing the mechanical means necessary to give effect to a known and useful mechanical principle, however pleasing to the eye such requisite mechanism may be."

We have already argued this point at page 32 et seq., of our brief in the companion case 3616, and we refer your honors to that portion of our brief in that behalf. It would serve no purpose of utility to dwell further on the matter in the instant case. We merely repeat in substance what we said there, that the remarks of the court quoted evince a misconception of the fundamental law of design patents. While surface ornamentation may be the subject matter of a design patent, it is equally true that contour, form, configuration and symmetry of parts may also be the subject matter of a design patent. It is the *appearance* of the article which the law says is patentable, and it is frequently the case that "nude utilities" have been covered by valid design patents. Indeed the opinion of the lower court virtually concedes this when it says that this design is not "without comeliness"; and the further statement of the court that "by reason of their simplicity, and symmetry, and the 'glow' they may be pleasing to the eye". If those statements be true, then this is a valid patent.

But furthermore, the lower court ignored the appearance of the article "as a whole", that is to say,

the impression produced upon the mind by the article "as a whole". In this connection we refer your honors to our brief in the case No. 3616 beginning at the middle of page 33 thereof.

There is one matter, however, which we omitted to dwell on in that brief and which we now call to the court's attention. It is this: *The distinctive form of arched guard wires forming the protective cage in front of the reflector is an essentially distinctive feature, which more than anything else, or as much as anything else, gives to the article a distinctive appearance.* It is something which catches the eye of the observer immediately, and its form is not a "nude utility". On the contrary its form is ornamental and is designed for that purpose. It would have been easy enough for the defendant to have adopted a flat wire screen, such as shown in Defendant's Exhibit 8 and Defendant's Exhibit 15, or even that shown in Defendant's Exhibit F (Morse Patent), and in such case the article would present a changed appearance. But instead of taking the flat form of wire screen the defendant uses the particular form of *arched wires* for making its protective cage, and thereby closely simulated the appearance of the patented design.

And as to the form of pedestal defendant could have used the four-legged stand of the Ferranti Fires; but instead thereof it simulated the circular base plate and upright standard of plaintiff, even simulating the color.

It follows, therefore, that the learned judge of the lower court was in error when he asserted that "no

parts or lines" of the plaintiff's heaters could "be dispensed with or substantially altered, without impairing their utility".

AS TO ANTICIPATION.

The decision of the lower court relies upon the following as showing anticipation of the patent in suit, viz.:

(1) Taylor English Patent, No. 102,070 of November 16, 1916;

(2) U. S. Warner Patent, No. 1,120,003, of December 8, 1914;

(3) English Patent to Simplex Conduits, 19,971, of September 4, 1914;

(4) The Ferranti Fire.

As to the Taylor English Patent.

It is apparent from a reading of the opinion of the lower court that primary reliance was placed thereon, more than upon anything else, for anticipation. At page 27 of the record, in discussing the Brown mechanical patent, it is said:

"Material also are the Warner Patent * * * and the Taylor Patent of Nov. 16, 1916 (English 102070)."

And at page 30 of the record, when discussing specifically the design patent in suit, No. 51,253, it is said:

"Moreover the design is almost identical with that shown in Fig. 1 of the Taylor patent above referred to (English 102070). Substantial identity is expressly conceded by counsel for the plaintiff, who, however, contests the priority of the Taylor patent. It is true that

while this patent was applied for on January 11, 1916, it was not finally issued until November 15, 1916. It is further true that Brown's 'invention' as disclosed in his mechanical patent and his design patent 51,043 (covering the annular flange) was made as early as April, 1916, although the patents were not applied for until the following year. But if there is any evidence that the design invention of patent 51,253 antedates the application, which was filed July 10, 1917, it has escaped my attention. It is not without significance that in the application for the Taylor patent, made before any of the Brown 'inventions', the applicant carefully limited her claim with the explanation that she was 'aware that it is not broadly new to construct an electric radiator with a resistance wire wound spirally upon a tubular member made of refractory material, such resistance element being mounted in front of a reflector, with a protecting guard in front of the element.'"

It is quite apparent from the above that the decision is primarily based on the contention that the Taylor English patent is a clear anticipation of the patent in suit. But in regard to that matter we call the court's attention to this fact,

That this Taylor patent was not put in evidence in the case at bar, nor is it in the record.

It is not noted nor referred to in the statement of evidence (Record 36-108). It is not in the record here anywhere. It is not before this court. It is not physically present, and this court has no means of knowing its existence or its contents.

Therefore, the lower court committed an error in considering this English patent of Taylor. Every case must be decided upon the record before the court, and the court has no warrant or authority for considering

and being influenced by matters outside of the record, even though the judge may have some private information of its own regarding such matters outside of the record. Of course it goes without saying that the lower court cannot take judicial knowledge of the existence or contents of an English patent which was not put in evidence. In respect of this English patent, therefore, the lower court committed a plain and palpable error in basing its decision thereon, and for that reason alone the decree must be reversed.

As an explanation of this glaring error, though this is entirely off the record, we state that after the trial of the case at bar the case of this plaintiff against another company, to wit, Holbrook, Merrill & Stetson, was had, which last named case was defended by other attorneys than those appearing for the Westinghouse Company in the instant case. Those attorneys were Heard, Smith & Tennant of Boston and Samuel Knight, Esq., of San Francisco. *That case against Holbrook, Merrill & Stetson did not involve the patent in suit here*, but involved the first design patent of Brown, 51,043, and the Brown mechanical patent 1,245,084. In that case this English patent of Taylor was put in evidence and duly considered; but it was not put in evidence in the instant case, nor was it stipulated that it should be considered as being in evidence by reference, nor that it should be considered in the instant case. It seems that the learned judge of the lower court *ex moro motu* and without consent of counsel considered the Taylor English patent to be in evidence in the instant case. This was a plain and palpable error.

Furthermore, at page 30 the opinion of the lower court says that substantial identity between the design of the patent in suit and the Taylor patent was expressly conceded by us, and that we relied upon the fact that Brown's invention antedated the issuance of the Taylor patent, but that there was no evidence to show that Brown's invention actually did antedate it.

In answer to this we desire to say that we did not make any such concession in *this* case, which is now before the court, and that for the simple reason that the Taylor patent was not in evidence in this case and, therefore, there was no occasion to make any such concession, nor even to consider the Taylor patent at all. We did make such concession in the case against Holbrook, Merrill & Stetson, which case was based on Brown's other design patent, 51,043, and then nullified the effect of such concession by proving the date of Brown's invention of his first design patent, 51,043, to be prior to the date of issuance of the Taylor patent. We showed that the date of the Brown invention, 51,043, was as early as April, 1916, whereas the date of issuance of the Taylor patent was November 15, 1916. That was a complete answer to the Taylor patent as an alleged anticipation of the Brown patent, 51,043, in the suit against Holbrook, Merrill & Stetson. But in the instant case, there was no occasion for us to carry the date of Brown's invention of patent 51,253 back of the date of issuance of the Taylor patent for the reason that the Taylor patent was not in evidence in this case. If the Taylor patent has been put in evidence in this case, then we would have answered it in pre-

cisely the same way that we answered it in the Holbrook, Merrill & Stetson case; that is to say, we would have proved the date of invention of Brown's patent 51,253 to be prior to the date of issuance of the Taylor English patent. But as the Taylor patent was not in evidence in the instant case, there was no occasion for us to prove our invention as of a date anterior to the Taylor patent. By reason of these facts we did not carry the date of Brown's invention of patent 51,253 back of its application date. There was no occasion to do it. We submit that the decision of the lower court is contrary to law in that it is based upon matter which was not in evidence in the case. Is it possible that such a decree can be sustained?

**As to the Other Anticipating Patents Referred to in the
Opinion of the Lower Court.**

We have already considered these in our two briefs in cases 3616 and 3617, and it would subserve no purpose of utility to dwell upon them in the instant case. The Warner, the Simplex and the Ferranti Fire show devices of distinctly different appearance to the eye from that of the patent in suit. A most casual glance at them will prove this contention.

The WARNER device by reason of its large circular metal grid work and electric light bulb in the center of the bowl, and by reason of the absence therefrom of arched guard wires in front, is clearly distinctive in appearance from the device of the patent in suit. No one would ever take our device for Warner's, nor Warner's device for ours. They are wholly different and

distinctive in appearance to the eye, and that is the test of a design patent.

The English patent of **SIMPLEX CONDUITS** shows a cone with corrugations or flutes on its interior, and its appearance to the eye is also sharply and distinctively different from that of ours. One particular difference which may be noted is the absence of a protective cage of arched wires in front. In the illustration shown in Defendant's Exhibit 8 the protective cage is shown as a flat wire mesh screen, which is wholly different in appearance from ours. In the drawings of the Simplex patent itself no protective guard of any kind is illustrated. In the specification it is said, that in order to protect the heating element, "the open end of the reflector should be fitted with a detachable rim carrying a grating of coarse wire mesh or the like". This seems to be in accordance with the design shown in Defendant's Exhibit 8.

In this Exhibit 8 it is also to be noted that the reflector is mounted on a highly ornate and decorated stand or support, having four legs to rest on the floor, thereby accentuating the difference in appearance between the Simplex heater and ours.

As to the **FERRANTI FIRE**, shown by a cut in Defendant's Exhibit 4, the following facts are to be noted:

(1) It has a wide circular quartz plate, which gives the device a peculiar and distinctive appearance.

(2) It has no protective cage of arched guard wires in front, nor any protective cage of any kind whatever.

(3) It is mounted on a peculiarly shaped stand having four legs resting on the floor.

(4) It presents a low and squatty appearance.

These differences are all distinctive as to appearance, and we do not think it possible for any one, so far as the appearance is concerned, to take a Ferranti Fire for a Brown heater, or a Brown heater for a Ferranti Fire.

Applying the rule of law applicable to design patents, we submit that the appearances of the two devices to the eye are wholly distinctive and different.

Was there a Mis-trial?

This is the same question already discussed by us in cases 3616 and 3617, and we refer your Honors to our briefs in those two cases on that point.

All of which is respectfully submitted.

Dated, San Francisco, .

February 21, 1921.

JOHN H. MILLER,

Attorney for Appellant.

No. 3618

IN THE
United States Circuit Court of Appeals
For the Ninth Circuit

MAJESTIC ELECTRIC DEVELOPMENT COMPANY
(a corporation),

Appellant,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING
COMPANY (a corporation),

Appellee.

BRIEF FOR APPELLEE.

WESLEY G. CARR,

DAVID L. LEVY,

WALTER SHELTON,

Solicitors for Appellee.

No. 3618.

IN THE
United States Circuit Court of Appeals
For the Ninth Circuit

MAJESTIC ELECTRIC DEVELOPMENT COMPANY
(a corporation),

Appellant,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING
COMPANY (a corporation),

Appellee.

BRIEF FOR APPELLEE.

This is an appeal in a patent infringement suit in which the appellant was the plaintiff in the lower court.

For convenience, the parties will be referred to here as the plaintiff and the defendant.

SUBJECT MATTER.

The basis of this suit is design letters patent No. 51,253, granted to the plaintiff-appellant upon an application filed by Edmund N. Brown and purporting to cover a design for an electric heater casing.

The design constituting the subject-matter of the patent in suit differs from that constituting the subject-

matter of the patent involved in the companion suit No. 3616 in the omission of the protective casing and its annular peripheral flange and in no other material respect.

The heater embodying the design of the patent in suit is characterized by portability, and embodies essential elements, as follows: an electrical heating unit, a concavo-convex reflector, a wire cage or guard and a supporting stand, *all occupying a co-operative relation to each other that is dictated by FUNCTIONAL considerations.*

PATENT IN SUIT INVALID.

The design here involved fails to meet the requirements of Section 4929 in substantially the same manner and to the same degree or, perhaps, to even a greater degree than does the design of patent No. 51043 of case 3616.

In view of the close resemblance of the two designs, the citations of, and the quotations from, court opinions construing the statute, as applied to designs embodying neither originality nor ornamental characteristics, need not be repeated here, but the court is requested to consider our brief in case 3616, as applicable to the facts presented by the instant case, in the particulars just mentioned.

The prior art, represented by general well-known practice over a long period of years, and specific patents, publications and prior uses are applicable in the instant case in a manner and to a degree at least equal to their applicability in case 3616. Repetition of our discussion of such prior art is, therefore, omitted from this brief,

but the court is respectfully requested to make reference to such discussion when considering the question of patentability of the design set forth in patent No. 51253.

We request special consideration of the Majestic heaters Nos. 1, 2, 2b and 3 (Defendant's exhibits A, B, C and D); the photograph of the Majestic exhibit at the Panama-Pacific Exposition (Defendant's exhibit E); the Warner patent No. 1,120,003 (Defendant's exhibit H); Shoenberg patent No. 1,109,551 (Defendant's exhibit I); Also the Taylor British patent No. 102,070 of 1916, which substantially illustrates the Majestic No. 3 heater.

Counsel for plaintiff protests against consideration of the last-mentioned patent in this suit, because it was not formally offered in evidence therein. In this connection, it is pertinent to state that three suits against the Westinghouse Electric & Manufacturing Company and one against Holbrook, Merrill & Stetson were tried consecutively and were all argued together. In view of such relation of the cases and the fact that two of the patents in suit against the Westinghouse Company were combined in the suit against Holbrook, Merrill & Stetson, Judge Dietrich wrote a single opinion in disposing of the four suits and, in such opinion, made reference to the above-mentioned Taylor patent as embodying an anticipation of design patent No. 51,253.

Even though the Taylor British patent was not formally offered in evidence in this case, a certified copy of it was regularly placed on file and the opinion of Judge Dietrich has made it a part of this case.

Judge Dietrich made reference to Kempton British patent No. 12,330 of 1848 as disclosing a parabolic reflector for heating purposes, gas jets being disposed in

proper relation to such reflector in order that the heat produced by the burning gas might be thrown forward in a beam.

Counsel for plaintiff objects to any consideration of the British patent just mentioned because it was not formally offered in evidence in any of the three cases now on appeal in this court. This objection by counsel for plaintiff is purely technical, inasmuch as the three suits against the Westinghouse Electric & Manufacturing Company and a suit against Holbrook, Merrill & Stetson were tried consecutively and were all argued together. Inasmuch as Judge Dietrich prepared a single opinion for the four cases just mentioned, he naturally and properly made use of the exhibits without attempting to differentiate as to the specific cases in which they may have been formally offered in evidence. By so doing, he made the Keayton British patent a part of the instant case and this court cannot properly leave it, provided it is deemed of material value, anywhere than it can ignore a matter of such common knowledge as to be properly subject to judicial notice, even though not represented by any exhibit or testimony or specifically presented by counsel for consideration of the court.

The plaintiff, having secured the Shoenberg patent which, by reason of the then prior art, was so limited in scope that it could not be utilized to exclude others from the "beam-heater" field, and having designed, manufactured and sold its Nos. 1, 2, 15 and 3 heaters without attempting to secure additional patent protection thereon, its after-thought in attempting to cover, by a design patent, an inconsequential variation from its former designs and thereby compel other manufacturers

to abandon the field or pay tribute is unconscionable and cannot receive the sanction of a court of equity.

The actual features of the plaintiff's exhibits Nos. 2 and 3 which serve to distinguish them from the prior heaters (Nos. 2, 2b and 3) manufactured and sold by the plaintiff are

1. Size, which the plaintiff admits is immaterial and cannot affect the patentability of the design or its infringement.

2. The color, which is no part of the patented design but is the striking feature of plaintiff's exhibits Nos. 2 and 3 and serves, more than anything else, to impress an observer giving such attention as one ordinarily gives to such devices.

The relatively large reflecting bowl of burnished copper is not only pleasing in appearance, because of its color, but it gives to the observer a visible impression of warmth to supplement the heat actually imparted by the reflected rays of energy.

The extent of manufacture and sale of No. 7 heaters by the plaintiff obviously has no significance in the instant case. Inasmuch as the designs of the two patents are not exactly alike and the plaintiff has never sold heaters embodying the specific design shown in the patent in suit, *since the date of issue of that patent*, evidence of sales of No. 7 heaters is unquestionably irrelevant and immaterial.

It is true that the plaintiff has offered in evidence certain advertising circulars which illustrate heaters like or closely resembling that shown in the patent in suit but no evidence has been offered to the effect that such circulars have ever actually been utilized for the

purpose of promoting the sale of such devices or that any such devices have actually been sold.

Counsel for plaintiff states that counsel for defendant urged at the trial in the lower court that design patent No. 51253 is anticipated by design patent No. 51043, and that the court seems to have accepted this view. We take issue with this statement, so far as it alleges or indicates any contention on behalf of the defendant that a patent issued upon an application which was pending concurrently with another application is a prior patent to be utilized as a reference against the patent issuing upon the other application, provided the case is not one of "double patenting".

Our position with reference to these two patents is this: if the defendant's device infringes each of these two patents, its design must be substantially the same as the design of each of the patents and, consequently, since two things which are equal to the same thing are equal to each other, the designs of the two patents must be alike and, since both of them cannot be valid, if embodying the same invention, the later patent is *ipso facto* invalid.

It is impossible to understand in what sense and for what reason counsel for plaintiff relies upon the cage of arched guard wires as a distinctive patentable feature of the design of the patent in suit and as giving the article a distinctive appearance, inasmuch as this device constitutes an element of each of the Majestic heaters Nos. 1, 2, 2b and 3 (defendant's exhibits A, B, C and D), and occupies the same position with reference to the other elements of the device.

PATENT IN SUIT NOT INFRINGED.

Counsel for plaintiff alleges, on Page 2 of his brief, that "If patent 51,253 be valid, then it follows conclusively that infringement exists. A casual glance at the two devices is sufficient to prove this contention. Therefore, on this appeal we are concerned only with the question of validity of the patent 51,253, and that is the only question before this court." This statement is not correct. The patent in suit embodies a heating unit that is disposed at right angles to the axis of the reflector, whereas defendant's heating unit is disposed in the axis of the reflector and thus presents a strikingly different appearance. Furthermore, the reflector of the patent in suit is rigidly supported upon the top of a stand of the ordinary desk telephone type, whereas the defendant's reflector is mounted upon trunions in a frame of substantially U shape.

Purchasers of electric heaters are not restricted to a single view and naturally would not examine the heater from in front only; even if they should do so, they would observe, as did Mrs. Lebatt, the difference in arrangement of the heating unit, and if viewed from the side or the rear, the difference between defendant's support and that shown in the patent in suit is not only noticeable, but unmistakable.

One cannot ignore the fact that Fig. 2 of the patent drawing shows the mounting of the reflector on its pedestal and accentuates the structure from which defendant's device is distinguished by its own peculiar form of support.

The statement of counsel for plaintiff that the defendant might have used the four-legged stand of the Ferranti Fires, is beside the mark, although doubtless true, inasmuch as defendant did not adopt a stand of the desk telephone type such as the patentee showed in his drawing, but, in preference thereto, selected a supporting stand like that shown and described in British patent No. 19971 of 1913 and thereby, to that extent, avoided any semblance of infringement of the patent in suit.

Although the defendant's structure obviously embodies a concavo-convex reflector, a heating unit supported in front of said reflector and a protective cage having guard wires the ends of which are attached to the margin or rim of the reflector, *the designers of the defendant's heater secured all of the essential elements incorporated in the heater from the prior art which was also available to Brown when he made the alleged invention of the patent in suit.*

Defendant's device is shown and described in British patent No. 19,971 of 1913, and in defendant's exhibit 9, except as regards the form of the reflector and that of the protective cage.

It will be noted that the supporting member of the defendant's device embodies a base having a frame of U-shape between the arms of which the reflector is mounted upon trunnions and that these parts correspond closely to like parts in the British patent.

It is to be noted, further, that, in the defendant's device, the heating unit comprises a supporting rod, an

insulating cylinder on such rod and a coil of resistance wire disposed on the insulating cylinder, and that this unit is mounted in the axis of the reflector.

Corresponding parts, which differ only as regards the length of the unit, are disclosed in the British patent.

It is to be noted, further, that a more or less definite relation between the length of the heating unit and the depth of the reflector exists and, consequently, inasmuch as the designers of the defendant's heater elected to use a reflector of the form shown in the Warner patent (defendant's exhibit H), they necessarily utilized a heating unit the length of which conforms to the depth of the Warner reflector.

The protective cage of the British patent was rejected as less desirable than other forms known in the prior art and, consequently, substantially the form of that shown in the Porter patent No. 684,459 of October 15, 1901, (defendant's exhibit N) was adopted.

Or it may be assumed that the designers of the Westinghouse heater had knowledge of the specific cage shown in defendant's exhibit 16, which was obviously available to anyone desiring to make use of that specific form of protective cage. The device shown in exhibit No. 16 is the Majestic Company No. 2 heater, as exemplified in defendant's exhibit B, the design of which had been abandoned to the public by commercial exploitation prior to the advent of heaters like plaintiff's exhibits Nos. 2 and 3.

As has already been noted, the design of the patent in suit is characterized by a reflector of bowl-shape sup-

ported upon a stand of the well-known desk-telephone type, a cylindrical heating unit, supported in front of the reflector, with its major axis at right angles to the axis of the reflector and a protective cage of bowl-shape composed of wires the ends of which are attached to the outer edge of the reflector bowl. These several devices are combined to constitute an electric heater of a type generally well known in the art.

The design, as embodied in the plaintiff's exhibits Nos. 2 and 3, does not differ from that shown in the patent in suit except in one striking particular, namely, the reflecting bowl of burnished copper.

Defendant's heater embodies elements the number and general co-operative relation of which are the same as in the plaintiff's heater except that its heating unit is disposed in the longitudinal axis of the reflector instead of at right angles thereto.

One striking difference between the defendant's heater and that of the patent in suit, in addition to the location of the heating unit, is the supporting stand which comprises a base and a frame of U-shape between the upper ends of which the reflector is pivotally mounted in order that it may be tilted.

The defendant's heater resembles the plaintiff's heater only because they both embody the same number of main elements or features having the same general arrangement and substantially the same color.

Defendant is at a loss to understand the plaintiff's position in urging infringement by defendant of both design patent No. 51,043 and design patent No. 51,253.

In view of the well known mathematical axiom that two things that are equal to the same thing are equal to each other, it is fundamental, in the law of design patents, that an infringing design must be like the patented design or it must be what is generally designated as a colorable imitation of such design.

There is no escape from the fact that the design of defendant's heater is not like that of patent No. 51,043 and, therefore, it does not constitute an infringement unless it is a colorable imitation. If a colorable imitation of the design of patent No. 51,043, it is not a patentably different design. By parity of reasoning, if defendant's design infringes patent No. 51,253, it is either like that or is a colorable imitation of it and, since a colorable imitation is, in a patentable sense, substantially the same as an exact copy, the defendant's device, as an infringement of both patent No. 51,043 and patent No. 51,253, must embody a design like that of both patented designs and, therefore, the two patented designs are not and cannot be patentably different.

Since design patent No. 51,043 is earlier in date than design patent No. 51,253, the latter must be invalid in view of the former or the defendant's design does not and cannot infringe both patents.

Although, as clearly shown by the evidence and as already set forth in this brief, the patent in suit embodies no feature of novelty over what is disclosed in prior patents and publications and, even if valid, would not be infringed by defendant's design because of the radical difference in the supporting structure and in the

location of the heating unit, the most important phase of the entire situation to be considered is that **THE PATENTEE BROWN HAS, IN FACT, SECURED A PATENT FOR THE DESIGN OF THE MAJESTIC No. 2 HEATERS WHICH WERE MANUFACTURED AND SOLD BY THE PLAINTIFF MORE THAN TWO YEARS BEFORE BROWN FILED HIS APPLICATION.**

Brown has not only secured a patent upon subject-matter which was dedicated to the public by reason of more than two years' public use, but, so far as the record shows, he filed an application and secured a patent upon a design which was invented by another and incorporated in the No. 2 Majestic heater which is illustrated in defendant's exhibits No. 16 and E and exemplified in defendant's exhibit B.

It may be true, as urged by the plaintiff, that the specific form of the reflector shown in the patent in suit differs slightly from that of the Majestic No. 2 heater, but it is beyond the range of reason and common sense for anyone to admit, much less to urge, that a slight change in the shape of a reflector of a heater of this type, although the change may be of some value, so far as functional performance is concerned, actually imports a new and patentable design.

If the patent in suit is infringed by the defendant's heater it is also infringed by the plaintiff's No. 2 heater—a manifest absurdity.

CONCLUSION.

It is submitted in conclusion, that the plaintiff-appellant has brought to this Court a cause of action which has no basis in equity—

1st. Because the design of the patent in suit embodies only what was taken from a well developed prior art and is therefore devoid of invention.

2nd. Because every element of the device shown in the patent in suit has a functional purpose and characteristic and no other and that no part of the structure could be omitted or so modified as to materially change the design without omitting or materially changing such functional characteristics, and, therefore, the design is not “ornamental” within the meaning of Section 4929, R. S. U. S.

3rd. Because the relation of the heating unit to the reflector in defendant's heater differs so radically from that of the corresponding elements of the patented design as to establish non-infringement, the difference being such as to make an instant and striking impression upon the sight and mind of one of plaintiff's own witnesses.

4th. Because the supporting member of defendant's heater is so strikingly different from that of plaintiff's heater that the most casual observer, if possessed of normal intelligence and power of vision, could not mistake the one for the other.

5th. Because every element of defendant's design and the design as a whole were taken from the prior

art and, therefore, could not have been taken from the plaintiff's patent unless it constituted the medium through which the information was transmitted.

SUGGESTED MISTRIAL

Our comments respecting appellant's suggestion of a mistrial will be found in our brief in case 3616 and we request that such comments be read as pertaining to this case.

Wherefore, it is submitted that the decree of the District Court should be affirmed.

Dated, San Francisco,
March 5, 1921.

WESLEY G. CARR,
DAVID L. LEVY,
WALTER SHELTON,

Solicitors for Appellee.

IN

The United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT

JOSEPH SPIESS,

Appellant.

VS.

PACIFIC MARINE IRON WORKS, a Corpora-
tion, GEORGE H. STURGES and ROBERT B.
STURGES, Co-partners, doing business
under the firm name and style of Sturges
& Sturges, and SOMMARSTROM SHIP-
BUILDING COMPANY, a Corporation,

Appellee.

TRANSCRIPT OF RECORD

WM. P. LORD,

Proctor for Appellant.

CAREY & KERR and CHARLES A. HART,

Proctors for Appellee,

Sommarstrom Shipbuilding Co.

Names and Address of Attorneys of Record:

Wm. P. Lord, 711 Lewis Building, Portland, Oregon,
Proctor for Libellant-Appellant.

Carey & Kerr, and Charles A. Hart, Yeon Building,
Portland, Oregon.

Proctors for Respondent-Appellee, Sommarstrom Ship-
building Company.

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IN

The United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT

JULY TERM, 1919

Be It Remembered, That on the 13th day of August, 1919, there was duly filed in the District Court of the United States for the District of Oregon, a

LIBEL

in words and figures as follows, to-wit:

IN THE DISTRICT COURT OF THE
UNITED STATES FOR THE DISTRICT
OF OREGON

JOSEPH SPIESS,

Libellant,

vs.

PACIFIC MARINE IRON WORKS, a Corpora-
tion, GEORGE H. STURGES and ROBERT B.
STURGES, Co-partners, doing business
under the firm name and style of Sturges
& Sturges, and SOMMARSTROM SHIP-
BUILDING COMPANY, a Corporation,
Respondents.

To the Honorable Charles E. Wolverton, and Robert
S. Bean, Judges of the District Court of the United

States, in and for the District of Oregon, sitting in Admiralty:

The libel and complaint of Joseph Spiess, residing in the City of Portland, Oregon, against the Pacific Marine Iron Works, Inc., an Oregon corporation of Portland, Oregon, Messrs. George H. Sturges and Robert B. Sturges, co-partners of Portland, Oregon, and the Sommarstrom Shipbuilding Company, a foreign corporation, in a cause of damages, civil and maritime, of a nature hereinafter more specifically set forth, alleges as follows:

I.

That the respondent, Pacific Marine Iron Works, Inc., is a corporation duly organized and existing under and by virtue of the laws of the State of Oregon, and transacting business in the City of Portland, in said State of Oregon, and among other things, is engaged in the business of fitting out ocean-going ships and vessels.

II.

That the respondent, Sommarstrom Shipbuilding Company, is a corporation organized under the laws of the State of Washington, and transacting business within the State of Oregon, and among other things, is engaged in the business of building and constructing wooden ships at its shipyard and plant at Columbia

City Oregon; that said respondent had complied with the laws of the State of Oregon in relation to the transaction of business within said state, by foreign corporations.

III.

That Robert B. Sturges and George H. Sturges are co-partners, doing business in the City of Portland, under the firm name and style of Sturges & Sturges, and among other things, are engaged in the business of plumbing and steam-fitting.

IV.

That some time prior to the matters and things hereinbefore set forth and complained about, the respondent, Sommarstrom Shipbuilding Company, had constructed and built an ocean-going steamship of thirty-five hundred (3500) tons, or thereabouts, at its shipyards in Columbia City, Ore.; that said steamship was launched on the 21st day of June, 1918, upon the navigable waters of the Columbia River, at Columbia City, Oregon, and the said steamship was christened and named "Datis," and thereafter had been brought in the navigable waters of the Columbia and Willamette Rivers to the City of Portland, Oregon, and on or about the 29th day of April, 1919, the engines in said steamship had been installed and the said steamship was lying in the navigable waters of the Willamette River, within the Port of Portland, Oregon, and was berthed at the dock of the

respondent, Pacific Marine Iron Works, and on said day was being prepared and made ready for an ocean voyage, and during all the times herein mentioned, was under the control of the respondents.

V.

That the means of communication provided by respondents for their employees working on the said Steamship "Datis" to the aforesaid dock, on the port side, at the time of the injuries hereinafter set forth, was by a board or plank of about 3 inches by 12 inches, and about 14 feet or more in length, placed from the after main deck of said steamship to the said dock or wharf; that the distance between the said steamship and the wharf was about eight feet, or thereabouts, and the distance from said plank to the navigable waters of the Willamette river, in which said steamship was lying, was about 30 feet below, that at the time plaintiff received the injuries hereinafter set forth, the deck of said steamship was about four feet higher than the floor of the said wharf on which said plank was resting and the said plank was used by respondents and their employes, and other persons having business on said steamship, as a means of ingress and egress to and from said steamship to the dock or wharf aforesaid.

VI.

That prior to the 29th day of April, 1919, the re-

spondent, Sammarstrom Shipbuilding Company, and the respondent, Pacific Marine Iron Works, had entered into a contract for fitting out said steamship "Datis" and making the same ready for an ocean voyage, and on the 29th day of April, 1919, and for several days prior thereto, said steamship, having been launched and christened as aforesaid, was berthed in the navigable waters of the Willamette River at the dock of the respondent, Pacific Marine Iron Works, as hereinbefore alleged, for being fitted out for said purpose, and in the performance of the aforesaid contract, the respondent, Pacific Marine Iron Works, had sublet a portion of the fitting out and plumbing of said steamship to the respondents, George H. Sturges and Robert B. Sturges, co-partners, as aforesaid.

VII.

That for some time prior to the 20th day of April, 1919, libellant was in the employ of said respondents, George H. Sturges and Robert B. Sturges; that the place of business or plant of said respondents is located at No. 443 Washington Street, Portland, Oregon; that the said respondents have rejected the benefits of Chapter 112, of the Session Laws of Oregon for 1912, and acts amendatory thereto; that the injuries sustained by libellant hereinafter set forth, happened away from the plant of said respondents, but while libellant was under the direction and control of said respondents and the other respondents herein; that the respondents, Som-

marstrom Shipbuilding Company, and the Pacific Marine Iron Works, have accepted the benefits of said Chapter 113, of the Sessions Laws of Oregon for 1913, and acts amendatory thereto; that prior to the commencement of this suit the libellant elected not to take or accept the benefits of said Chapter 113 of the Session Laws of Oregon for 1913, and acts amendatory thereto.

VIII.

That on the 29th day of April, 1919, libellant was engaged at work for respondent on said Steamship "Datis," while the same was lying in the navigable waters of the Willamette River at the dock or wharf of the Pacific Marine Iron Works, as hereinbefore alleged, in placing lead pipe for plumbing fixtures in said steamship under the immediate direction and control of respondents.

IX.

That it was the duty of respondents to provide libellant with a safe place to work, and safe ingress and egress to and from the aforesaid Steamship "Datis" to the dock or wharf of the Pacific Marine Iron Works aforesaid, but said respondents, without any care or attention as to whether libellant would be injured thereby or not, failed and neglected libellant with a safe place to work and were negligent in; that the aforesaid plank

leading from the after main deck of said steamship to the aforesaid wharf was not fastened, lashed or cleated down by any means to the deck of the said Steamship, and which fact was unknown to libellant or below or underneath said gang plank had respondents placed or fixed a save-all or cargo net which libellant alleges is a practicable method of preventing persons from falling into waters; that unless such gang plank as hereinbefore described is fested, hooked or cleated, there is greater danger from the rise and fall of the waters of the Willamette River, or by the operation of the tides, or by the propulsion of waters of the said river against the steamship, by other craft using the river, that the ends of said plank will move and slip and no longer act as an adequate support to sustain the weight of a person of using the same; that the safe and proper method to have been followed in fixing or placing said gang plank so that the same would have been safe to use as a means of ingress and egress under the existing physical conditions hereinbefore described, was to have lashed said gang plank with rope from the innboard side of the plank to ring-bolts or deck bits on the innboard side of the steamship or to have placed cleats under the gang plank.

That while libellant was engaged in the performance of his duties aforesaid, he was required to go from the said steamship to the aforesaid wharf on respondent's business, and while libellant was using the aforesaid plank as a means of reaching the wharf, having just stepped onto said plank from the deck of said steam-

ship, without any fault on the part of the libellant, and wholly through the fault and negligence of the respondents, in failing to fasten, lash or cleat said gang plank, so that the same would remain fixed and stationery, and through the operation of the waters of the Willamette River, as hereinbefore described, the end of said gang plank moved and slipped so that the end of said gang plank resting on said vessel acted no longer as a support, and gave way, and fell into the waters below, and by reason thereof, libellant fell into the waters below, striking his right leg on said plank, and breaking the same, so that libellant was required to go to a hospital to have same operated on and set with a silver plate and screws, all to his injury and damage as hereinbefore alleged.

XI.

That libellant earns the sum of Eight (\$8) Dollars per day in his trade and occupation as a plumber, and by reason of the negligence of respondents, as hereinbefore alleged, the libellant will lose nine months' time from his labor, to his damage in the sum of Seventeen Hundred Sixty (\$1750) Dollars; that in addition thereto, the libellant had incurred doctor and hospital bills in treating his said injuries, in the sum of Six Hundred and Nine (\$609) Dollars, and in addition thereto, libellant has sustained a serious and permanent impairment to his right leg, and suffered great physical and mental pain and anguish, all to his damage in the sum of Ten Thousand (\$10,000) Dollars, making the total sum

claimed by the libellant from respondents to be Twelve Thousand, Six Hundred and Nine (\$12,609) Dollars, by reason of the wrongful acts of said respondents in bringing about the aforesaid injuries.

XII.

That all and singular the premises are true and within the admiralty and marine jurisdiction of this Court, and the respondents have property within the jurisdiction of this Court.

WHEREFORE, the libellant prays that process in due form of law according to the course of this Honorable Court, may issue against said respondents, the president and officers thereof, and that they may be required to answer on oath this libel and the matter herein contained, and that if said respondents cannot be found, then the goods, chattels and effects thereof, within the jurisdiction of this Court, may be attached to an amount sufficient to answer the libellant's claim, and that this Honorable Court will be pleased to decree to the libellant the payment of the amount which shall be due him for the cause aforesaid, and that the respondents may be condemned to pay the same, with interest thereon, and the costs of this suit, and that the libellant may have such other and further relief as in law and justice he may be entitled to receive.

Signed WM. P. LORD,
Proctor for Libellant.

United States of America }
 District of Oregon. } ss

I, Joe Spiess, being first duly sworn, depose and say that I am the libellant herein; that I have read the foregoing libel and know the contents thereof, and the same is true as I verily believe.

JOE SPIESS.

Subscribed and sworn to before me this 13th day of August, 1919.

WM. P. LORD,

Notary Public for Oregon. My Commission Expires December 26, 1920.

Endorsed:

U. S. District Court, District of Oregon.

Filed August 13, 1919.

G. W. MARSH, Clerk.

And Afterwards, to-wit, on the 23rd day of September, 1919, there was duly filed in the District Court of the United States for the District of Oregon,

EXCEPTIONS TO LIBEL

in words and figures as follows, to-wit:

(Title Omitted)

To the District Court of the United States, for the Dis-

trict of Oregon:

Sommarstrom Shipbuilding Company, a corporation, one of the respondents herein, for cause and causes of exception and objection in that certain pretended case of damages, civil and maritime, propounded in that certain libel filed August 13, 1919, in the above entitled court, doth represent, except, and object as follows, and for cause and causes of exceptance to said libel allege:

It appears from said libel that the pretended case of damages is based upon the duty owing to libellant as an employe of respondents, George H. Sturges and Robert B. Sturges. The work in which libellant was engaged at the time of his injury was being performed while the steamship "Datis" was berthed at the dock of Pacific Marne Iron Works in the Willamette River at the City of Portland, Oregon, and a long distance from the shipbuilding plant of the Sommarstrom Shipbuilding Company. The work upon which libellant was engaged did not involve or require the use of any machinery, tools, appliances, or place of employment furnished by this respondent, and this respondent was under no legal obligation of any kind with regard to any such machinery, tools, appliances, or place of work.

This respondent owed no duty to libellant with respect to the safety of the plank furnished by his employers or by Pacific Marine Iron Works for the purpose of ingress and egress to and from the steam-

ship "Datis" while at the dock of the Pacific Marine Iron Works, the failure to properly fasten which plank it is alleged caused libellant's injury.

Wherefore, respondent, Samarstrom Shipbuilding Company, prays that the libel filed in this case and every and all proceedings had thereunder may be dismissed as to this respondent.

CAREY & KERR,
CHARLES A. HART,

Attorneys for Respondent, Sommarstrom Shipbuilding Company.

State of Oregon }
County of Multnomah } ss.

I, Charles A. Hart, do hereby certify that I am one of respondent's attorneys in the above entitled proceeding, and that in my opinion the foregoing exceptions to the libel herein are well founded in law.

CHARLES A. HART.

Endorsed:

U. S. District Court, District of Oregon.

Filed September 23, 1919.

G. H. MARSH, Clerk.

Acceptance of Service Omitted.

And Afterwards, to-wit, on Monday, the third day of November, 1919, the same being the first judicial day of the regular November term of said court; present the Honorable Robert S. Bean, United States District Judge, presiding, the following proceedings were had in said cause, to-wit:

(Title Omitted)

November 3, 1919.

This cause was heard by the Court upon the exceptions of the respondent, Sommarstrom Shipbuilding Company, to the libel herein, said libellant appearing by Mr. Wm. P. Lord, of proctors, and said respondent appearing by Mr. Charles A. Hart, of proctors.

Upon consideration whereof,

It Is Ordered that said exceptions be and the same are hereby sustained.

And Afterwards, to-wit, on the 29th day of December, 1919, there was duly filed in the District Court of the United States for the District of Oregon, a

STIPULATION

in words and figures as follows, to-wit:

(Title Omitted)

It is hereby stipulated and agreed by and between the libellant and George H. Sturges and Robert B. Sturges and the Pacific Marine Iron Works, a corporation, the respondents above named, that the above entitled cause and all suits or actions arising from the facts set forth in the libel, whether in admiralty, law or equity, has been compromised and settled as between them and may be dismissed as to said named respondents with prejudice and without costs, by order and judgment of the Court.

Dated this 29th day of December, 1919.

JOSEPH SPIESS,
Libellant.

WM. P. LORD,
Proctor for Libellant.

COY BURNETT,
Proctor for George H. Sturges,
and Robert B. Sturges, Respondents.

F. S. SENN
Proctor for Pacific Marine Iron
Works, a Corporation, Respondent.

And Afterwards, to-wit, on Monday, the 31st day of March, 1920, the same being the 37th judicial day of the regular March term of said Court; present the Honorable Charles E. Wolverton, United States Dis-

trict Judge, presiding, the following proceedings were had in said cause to-wit:

Pursuant to the stipulation of libellant and respondents, George H. Sturges and Robert B. Sturges and the Pacific Marine Iron Works, now on motion of Wm. P. Lord, proctor for libellant, for an order in conformity with said stipulation, it is hereby:

Ordered, That the above entitled libel be dismissed with prejudice and without costs to the respondents, George H. Sturges and Robert B. Sturges and Pacific Marine Iron Works.

Dated this 31st day of March, 1920.

CHAS. E. WOLVERTON, Judge.

And Afterwards, to-wit, on Tuesday, the 18th day of May, 1920, the same being the 68th judicial day of the regular March term of said Court; present the Honorable Robert S. Bean, United States District Judge, presiding, the following proceedings were had in said cause, to-wit:

(Title Omitted)

This cause was heretofore heard by the Court upon the exceptions of the respondent, Sommarstrom Ship-building Company, to the libel herein, and order was duly entered sustaining said exceptions on November

3, 1919; now, therefore, upon application of said respondent, Sommarstrom Shipbuilding Company, appearing by Mr. Robert Kuykendall, of proctors.

It Is Ordered that the libel herein be and the same is hereby dismissed.

And Afterwards, to-wit, on the 17th day of November, 1920, there was duly filed in the District Court of the United States for the District of Oregon, a

NOTICE AND PETITION FOR APPEAL

in words and figures as follows, to-wit:

(Title Omitted)

Now comes the libellant, and, feeling agrieved by the order of the Court sustaining the exceptions of the respondent, Sommarstrom Shipbuilding Company, a corporation, above named, to the libel herein, and by the decree dismissing the libel herein, which said decree was made on the 18th day of May, 1920, does hereby appeal from said decree, with the object of obtaining a reversal of the same and securing a decree for damages as claimed, to the United States Circuit Court of Appeals for the Ninth Circuit and will pray of said Court to permit libellant to amend his libel, if the same should be amended, and to take such steps for making up the issues in this cause and the taking of the testimony of the witnesses, as may be within the jurisdiction of the

said Circuit Court of Appeals, hereinafter to be taken in accordance with the Statutes of the United States of America and the Rules of said United States Circuit Court of Appeals, as in such cases made and provided.

The libellant prays that his appeal may be allowed and that the record in said cause may be duly certified to said Circuit Court of Appeals to be there heard and determined.

Dated this 17th day of November, 1920.

WM. P. LORD,
Proctor for Libellant.

Upon the reading of the foregoing petition for appeal and consideration of the assignment of errors herewith,

It Is Ordered, That the appeal as prayed for be and is herewith allowed.

Dated this 17th day of November, 1920.

CHAS. E. WOLVERTON,
District Judge.

County of Multnomah:

Service of the foregoing petition for appeal, by copy is admitted this 17th day of November, 1920.

C. A. HART,
One of Proctors for Respondent,
Sommarstrom Shipbuilding Company.

And Afterwards, to-wit, on the 17th day of November, 1920, there was duly filed in the District Court of the United States for the District of Oregon, an

ASSIGNMENT OF ERRORS

in words and figures as follows, to-wit:

(Title Omitted)

Now comes the libellant, Joseph Spiess, and assigns errors in the decision of the District Court, as follows:

1. The District Court erred in making an order sustaining the exceptions of Sommarstrom Shipbuilding Company, a corporation, to the libel in this cause.

2. The District Court erred in holding and citing that the libel of the libellant did not state facts sufficient to constitute a cause of suit against the respondent, Sommarstrom Shipbuilding Company, a corporation.

3. The District Court erred in rendering a decree dismissing libellant's cause of suit and entering judgment against libellant.

Wherefore, libellant prays that the decree in this

cause may be reversed and that he may be permitted to amend his pleadings, and that this Court may cause this suit to be brought to issue and the cause tried by order of this Court and enter final decree herein in accordance with the Statutes of the United States of America and the rules of the United States Circuit Court of Appeals for the Ninth Circuit, as in such cases made and provided, and after taking the testimony of the witnesses for the respective parties, if the same should be proper and requisite.

WM. P. LORD,
Proctor for Libellant.

United States of America	} ss.
District of Oregon	
County of Multnomah	

Service of the foregoing assignment of errors, by copy is admitted this 17th day of November, 1920.

C. A. HART,
One of Proctors for Respondent,
Sommarstrom Shipbuilding Company.

And Afterwards, to-wit, on the 17th day of November, 1920, there was duly filed in the District Court of the United States for the District of Oregon, a

CITATION ON APPEAL

in words and figures as follows, to-wit:

(Title Omitted)

To Sommarstrom Shipbuilding Company, a corporation, and to Carey and Kerr, Your Proctors of Record herein, Greeting:

Whereas the libellant in the above entitled suit, has appealed to the United States Circuit Court of Appeals from the decree made and rendered in the above entitled Court and cause on the 18th day of May, 1920, dismissing the libellant's libel, and the said appeal has been allowed:

Now, Therefore, You and each of you are hereby cited and admonished to be and appear in the United States Circuit Court of Appeals for the Ninth Circuit, at San Francisco, California, within thirty days from and after the date of this citation, to show cause, if any there be, why the decree appealed from should not be corrected and why speedy justice should not be done to the parties in that behalf.

Witness the Honorable Charles E. Wolverton, judge of the above entitled Court, with the seal of said Court hereunto affixed this 17th day of November, 1920.

CHAS. E. WOLVERTON,
District Judge.

United States of America	} ss.
District of Oregon	
County of Multnomah	

Service of the within citation is hereby admitted this 17th day of November, 1920.

C. A. HART,
One of Proctors for Respondent,
Sommarstrom Shipbuilding Company.

And Afterwards, to-wit, on the 17th day of November, 1920, there was duly filed in the District Court of the United States for the District of Oregon a

PRAECIPE ON APPEAL

in words and figures as follows, to-wit:

(Title Omitted)

To Sommarstrom Shipbuilding Company, a corporation, to Carey & Kerr and Charles A. Hart, Your Proctors of Record herein:

The libellant in the above entitled cause will make a transcript of the following named papers in the above entitled cause and file a transcript thereof with the clerk of the United States Circuit Court of Appeals at San Francisco, California, in taking an appeal in this cause, to-wit:

1. Libel.
2. Exceptions to Libel by Sommarstrom Shipbuilding Company.
3. Order Sustaining Exceptions to Libel.

4. Order Dismissing Cause as to Other Respondents.

5. Assignment of Errors.

6. Notice and Petition for Appeal.

7. Order Allowing Appeal.

8. Undertaking on Appeal.

9. Stipulation that Clerk may Certify to Transcript.

10. Citation on Appeal.

Dated this 17th day of November, 1920.

WM. P. LORD,
Proctor for Libellant.

Service admitted November 17, 1920.

CHARLES A. HART.

And Afterwards, to-wit, on the 18th day of November, 1920, there was duly filed in the District Court of Oregon, an

UNDERTAKING ON APPEAL

in words and figures as follows, to-wit:

(Title Omitted)

Know All Men By These Presents: That we, Joseph Spiess, as principal, by his proctor, Wm. P. Lord, and Herbert A. Holmes, surety, are held and firmly bound unto the respondent, Sommarstrom Shipbuilding Company, a corporation, in the full and just sum of two

hundred fifty (\$250) dollars, to be paid to the said respondent, its attorneys, or assigns; to which payment, well and true to be made, we bind ourselves, our heirs, executors and administrators, jointly and severally by these presents.

Sealed with our seals, and dated this 17th day of November, 1920.

JOSEPH SPIESS,
By WM. P. LORD,
His Proctor (Seal)

HERBERT A. HOLMES (Seal)

Whereas, the above named libellant has instituted proceedings to reverse a decree of the above entitled Court in the above entitled cause made and entered on the 18th day of May, 1920,

Now, the condition of the above obligation is such that if the said Joseph Spiess shall prosecute his appeal to the effect, and answer all damages and costs if he fails to make his plea good, then the above obligation to be void, else to remain in full force and virtue.

Dated this 17th day of November, 1920.

JOSEPH SPIESS,
By Wm. P. LORD,
His Proctor.

HERBERT A. HOLMES.

United States of America } ss.
 District of Oregon }

I, Herbert A. Holmes, whose name is subscribed as the surety to the above described undertaking, being first duly sworn, depose and say, that I am a resident and freeholder within the District of Oregon, and am worth the sum of Five Hundred (\$500.00) Dollars, over and above all debts and liabilities, exclusive of property exempt from execution.

HERBERT A. HOLMES.

Subscribed and sworn to before me this 17th day of November, 1920.

WM. P. LORD,

Notary Public for Oregon. My Commission Expires December 26, 1920.

United States of America } ss.
 District of Oregon }

Due service of the within undertaking by copy is hereby admitted this 18th day of November, 1920.

C. A. HART,

One of the Proctors for Respondent,
 Sommarstrom Shipbuilding Company.

A true copy.

The foregoing bond approved this 18th day of November, 1920.

C. A. HART,

Approved November 18, 1920.

CHAS. E. WOLVERTON,

U. S. District Judge.

AND THEREAFTER, to-wit, on the 14th day of December, 1920, there was duly FILED in the said District Court,

A STIPULATION

in words and figures as follows, to-wit:
(Title omitted)

It is hereby stipulated and by and between the libellant and the respondent, Sommarstrom Shipbuilding Company, a corporation, through their respective solicitors, that the said libellant may have to and including the 28th day of December, 1920, as time within which to file transcript of record herein and docket the within cause with the Clerk of the United States Circuit Court of Appeals, at San Francisco, California.

Dated this 14th day of December, 1920.

WM. P. LORD

Solicitor for Libellant.

CARRY & KERR,

Solicitors for Respondent,
Sommarstrom Shipbuilding
Company, a corporation.

AND THEREAFTER, to-wit, on Tuesday, the 14th day of December, 1920, the same being the _____ JUDICIAL day of the Regular November TERM of said District Court;

Present the HONORABLE CHAS. E. WOLVERTON, Presiding,
the following proceedings were had in said cause, to-wit:
(Title omitted)

Based on the stipulation herein;

IT IS ORDERED that the libellant may have to and in-
cluding the 28th day of December, 1920, as time to file
transcript of record herein and docket the within cause
with the Clerk of the United States Circuit Court of
Appeals at San Francisco, California.

Dated this 14th day of December, 1920.

CHAS. E. WOLVERTON
U.S. District Judge.

AND THEREAFTER, to-wit, on Monday the 27th day of
December, 1920, the same being the _____ JUDICIAL day of
the Regular November TERM of said District Court; Present
the Honorable CHAS. E. WOLVERTON, Presiding, the fol-
lowing proceedings were had in said cause, to-wit:

(Title omitted)

IT IS ORDERED that libellant have to and including the
31st day of December, 1920, as time to file transcript
herein and docket this cause with the Clerk of the
Circuit Court of Appeals.

Dated this 27th day of December, 1920.

CHAS. E. WOLVERTON
U.S. District Judge.

UNITED STATES OF AMERICA)
District of Oregon) ss.

I, G. L. Marsh, Clerk of the District Court of the United
States, District of Oregon, do hereby certify that the
foregoing printed record was tendered to me as Clerk for
certification as a true transcript of the record in the
case of Spiess v. Pacific Marine Iron Works, et al, and
I hereby certify that the foregoing printed Transcript of
Record is in accordance with the stipulation of the
parties herein.

IN TESTIMONY WHEREOF, I have hereunto set my
hand and affixed the seal of said court at Portland,
this 29th day of December, 1920.

Clerk U.S. District Court
District of Oregon.

3023

United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT

JOSEPH SPIESS,

Appellant,

vs.

PACIFIC MARINE IRON WORKS, a Corpora-
tion; GEORGE H. STURGES and ROBERT
B. STURGES, co-partners, doing business
under the firm name and style of Sturges
& Sturges, and SOMMARSTROM SHIP-
BUILDING COMPANY, a Corporation,
Appellee,

APPELLANT'S BRIEF

WM. P. LORD, ..

Proctor for Libellant.

CAREY & KERR and CHARLES A. HART,

Proctors for Appellee,

Sommarstrom Shipbuilding Co.

FILED

1911

RECEIVED

United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT

JOSEPH SPIESS,

Appellant,

vs.

PACIFIC MARINE IRON WORKS, a Corpora-
tion; GEORGE H. STURGES and ROBERT
B. STURGES, co-partners, doing business
under the firm name and style of Sturges
& Sturges, and SOMMARSTROM SHIP-
BUILDING COMPANY, a Corporation,
Appellee,

APPELLANT'S BRIEF

STATEMENT

This appeal is brought to review an order of the District Court sustaining exceptions to the libel made by one of the respondents and a decree entered thereon dismissing the libel as to this respondent.

The libel alleges a maritime tort against three respondents for personal injuries sustained by libellant on April 29, 1919, while the libellant was walking across a plank from the deck of the SS. "Datis" to a wharf, by the giving way and falling of the plank, causing libellant to be thrown into the water and onto

the plank, and resulting in the breaking of his right leg. The plank was designed as a gang plank.

It appears in the libel that the SS. "Datis" was launched in the Columbia River on the 21st day of June, 1918, at Columbia City, Oregon. The ship had been constructed by the Sommarstrom Shipbuilding Company, a Washington corporation, at its shipyard in Columbia City, Oregon, and on the 29th day of June, 1918, had been launched and christened, and had been brought to Portland, Oregon, and on the 29th day of April, 1919, "the engines in said steamship had been installed and the said steamship was lying in the navigable waters of the Willamette River, within the Port of Portland, Oregon, and was berthed at the dock of the respondent, Pacific Marine Iron Works, and on said day was being prepared and made ready for an ocean voyage, and during all the times herein mentioned, was under the control of the respondents." It is alleged that the Pacific Marine Iron Works is a corporation transacting business in Portland, Oregon and engaged in the business of fitting out ocean-going ships, and in the sixth paragraph of the libel it is alleged that prior to the injuries received by libellant, the Shipbuilding Company and the Marine Iron Works had entered into a contract for fitting out and making said steamship ready for an ocean voyage, and in performance of the contract the Pacific Marine Iron Works had sublet a portion of the fitting out and plumbing of the vessel to the respondent Sturges & Sturges.

The plaintiff was employed by Sturges & Sturges and on the 29th day of April, 1919 was placing lead pipe for plumbing fixtures in said steamship under the immediate direction and control of Sturges & Sturges and the other respondents.

In the fifth paragraph it is alleged that the means of communication provided by respondents for their employees working on the steamship to the dock on the port side was by a board or plank three by twelve, and about fourteen feet in length placed from the main deck to the wharf and the distance between the steamship and the dock was eight feet, and the distance to the water in which the vessel was lying was about thirty feet below and at the time libellant received the injuries that the deck was about four feet higher than the floor of the wharf on which one end of the plank was resting, "and the said plank was used by respondents and their employees, and other persons having business on said steamship, as a means of ingress and egress to and from said steamship, to the dock or wharf aforesaid."

The negligence charged against the respondent was that the plank from the deck to the wharf was not fastened, lashed or cleated down by any means to the deck of the steamship, which was unknown to the libellant; that unless such plank is fastened, lashed or cleated there is great danger from the rise and fall of the waters in the Willamette River, or by the propulation of waters of the river against the steamship by other craft using the

river, that the ends of the plank will move or slip and would no longer act as a support adequate to sustain the weight of a person using the same, and that the safe and proper method in fixing the gang plank so that it would have been safe to use as a means of ingress and egress, was to have lashed the gang plank with rope from the inboard side of the plank to ring-bolts or deck-bits on the innboard side of the steamship or to have placed cleats under the gang plank, all of which was a failure of all the respondents to provide libellant with a safe place to work, and safe ingress and egress from the ship to the wharf.

It is then alleged that while libellant was engaged in his duties he was required to go from the steamship to the wharf on business and while he was using the plank as a means of reaching the wharf, and having just stepped onto the plank from the deck of the steamship through the fault of respondents in failing to fasten, lash or cleat the plank so that it would remain stationary, the end of the plank resting on the vessel gave way and fell into the waters below precipitating libellant into the waters and striking his right leg on the plank when he struck the water.

Libellant's right leg was broken, which required an operation and to be set with a silver plate. Loss of nine months' time, to his damage in the sum of \$1,750; doctor and hospital bills in the sum of \$609 incurred; permanent impairment to the right leg and pain and suffering

sustained, are alleged to his damage in the sum of \$10,000.

On the 31st of March, 1920, on stipulation of respective counsel for Sturges & Sturges and the Pacific Marine Iron Works, the libel was dismissed as to these respondents with prejudice.

The Sommarstrom Shipbuilding Company filed exceptions on the grounds that the place where libellant received his injuries was a long distance from the shipbuilding plant of the company, at the dock of the Iron Works and that the work in which the libellant was engaged did not require the use of machinery, appliances or place of employment furnished by the shipbuilding company and that it was under no obligation in regard to the place of work or machinery.

Exceptions were further made on the ground that the shipbuilding company owed no duty to the libellant with respect to the safety of the plank furnished to and from the steamship for the purpose of ingress or egress while at the dock.

The District Court sustained this exception in an oral opinion and respondent, refusing to plead further, a decree was entered dismissing the libel as to the said respondent. The Court in its opinion held that there was no contractual relation between libellant and the

shipbuilding company and therefore, recovery could not be had against the shipbuilding company.

POINTS AND AUTHORITIES.

I.

The facts aver a maritime tort of which courts of admiralty have jurisdiction.

Hokkai Maru, 260 Fed. 569;

White v. John W. Cowper Co., 260 Fed. 350;

The Montrose, 178 Fed. 495.

II.

While the libellant was in the employ of one of the respondents, he was subject to the control and supervision of the other respondents. He was upon the vessel and using the plank at the invitation of the vessel and those having control over her, and it was the duty of the vessel and those having control over her, to see that the libellant had a reasonably safe place in which to perform his work and for failure of their duty in this respect, the vessel and her owners are liable.

Consolidated C. Co. v. Conley, 250 Fed. 679, and authorities.

Maryland Dredging, Etc., Co. v. Maryland, 262 Fed. 11.

The Omusk, 266 Fed. 200.

ASSIGNMENTS OF ERROR.

Now comes the libellant, Joseph Spiess, and assigns errors in the decision of the District Court, as follows:

1. The District Court erred in making an order sustaining the exceptions of Sommarstrom Shipbuilding Company, a corporation, to the libel in this cause.
2. The District Court erred in holding and deciding that the libel of the libellant did not state facts sufficient to constitute a cause of suit against the respondent, Sommarstrom Shipbuilding Company, a corporation.
3. The District Court erred in rendering a decree dismissing libellant's cause of suit and entering judgment against libellant.

WHEREFORE, libellant prays that the decree in this cause may be reversed and that he may be permitted to amend his pleadings, and that this Court may cause this suit to be brought to issue and the cause tried by order of this Court and enter final decree herein in accordance with the Statutes of the United States of America and the rules of the United States Circuit Court of Appeals for the Ninth Circuit, as in such cases made and provided, and after taking the testimony of the witnesses for the respective parties, if the same should be proper and requisite.

ARGUMENT.

The exceptions made by the respondent, Sommar-

strom Shipbuilding Company, do not claim that the injuries complained of are not within the admiralty jurisdiction of the federal court, nor, in view of the decisions of this court in *re Swayne & Hoyt v. Barsch*, cited, and the more recent decision in "*The Hokkai Maru*," could it be successfully contended on the facts set forth in the libel that there was not a breach of duty by the negligence of some one constituting a maritime tort of which the federal courts have jurisdiction.

The only questions then for decision on review are whether the District Court erred in sustaining the exceptions of the respondent, Sommarstrom Shipbuilding Company, to the libel on the grounds that the work in which libellant was engaged did not require the use of any appliances used by this respondent, and it was under no obligation of any kind with regard to the appliances or place of work, and that it owed no duty to libellant with respect to the safety of the plank as a means of ingress from the ship to the dock, and, upon libellant's refusal to plead further, to enter an order dismissing the libel as to this respondent. Under the allegations of the libel it will be seen that the ship had been launched at Columbia City, some distance below the City of Portland in the Columbia river, and had been brought to the City of Portland and moored to the dock of the Pacific Marine Iron Works and lying in the navigable waters of the Columbia river. The Shipbuilding Company had contracted with the respondent, Pacific Marine Iron Works to fit out the ship for an ocean voyage, and

in performance of this contract, the Pacific Marine Iron Works had sub-let a portion of the plumbing to the firm of Sturges & Sturges.

The libellant was in the employ of this latter firm, but it is directly alleged that his work was under the control and direction of all of the respondents. While he was walking across a plank which was the means of ingress and egress from the deck of the ship to the dock, the plank, which was designed as a gang plank, fell, through the failure to properly lash or fasten it, and caused libellant to fall into the waters and on the gang plank, breaking his leg, etc. Paragraph V charges that the means of communication provided by respondent for their employes working on the vessel was by this board plank, specifically describing the plank, and the distance between the ship and the wharf and distance to the waters below. It is further alleged in this paragraph that the plank was used by all of the respondents and their employes and other persons having business on said steamship, as a means of ingress and egress from the ship to the dock. It is also alleged that the ship on the day of the accident was under the control of the respondents. These are clearly allegations of fact and not conclusions. It is tantamount to saying that the entire work of fitting out the vessel was under the charge of the other respondents and that libellant's work was under their supervision, as much as under the supervision of his immediate employer.

We contend that the facts averred in the libel charge a joint and several maritime tort against all of the respondents named, and all should be held jointly and severally liable for the injuries received. The libellant was on the steamship at the invitation of all of the respondents, and particularly at the invitation of the Sommarstrom Shipbuilding Company. He was not at the plant of his employer which was in another part of the city. The ship as an entity and those having control over her were advised of this fact, as well as that the plumbing on board the vessel and the work which libellant was directed to do would require him to use the gang plank to get on and off the ship. In the very nature of things Sturges & Sturges would not furnish a gang plank to get on and off the ship. It was clearly the duty of the ship and those having control over her to furnish a gang plank and further an adequate and safe gang plank as a means of ingress and egress from the ship to the wharf. A proper gang plank is essentially a part of the ship's apparel and the ship and those operating her were under a legal duty and obligation to provide proper appliances as a means to get off and on the ship and to keep and maintain such apparel in reasonably safe condition for the use of persons who were lawfully upon the ship, whether in the ship's employ, or not. This was a duty the ship and those operating her owed to everybody. The ship and its owners were chargeable with knowledge that any person at work on the ship, or who had occasion to go on the ship would be required to use the gang plank

in question. From this knowledge of the situation, a legal duty was imposed upon the ship and those having control over her towards one so exposed upon its invitation, to use at least ordinary care to protect him from harm.

There is abundant authority under the facts pleading for holding the vessel or those having control over her liable for the injuries sustained. In *Consolidated Coastwise Co. v. Conley*, cited, a longshoreman in the employ of a stevedoring company who had a contract for discharging a barge's cargo and who was an independent contractor, fell through a hatch and was injured, and brought a libel in personam against the owners of the barge, and the owners were held liable. The Court of Appeals for the First Circuit said, "The libellant was not in the employ of the barge, but of an independent contractor with whom the owner had contracted for her discharge. The libellant, therefore, was upon the barge at the invitation of the owner (citing authorities), and it was its duty through its representatives to see that the barge in so far as it knew or had reason to anticipate that she would be used by libellant in going to and from his work and while at work, was reasonably safe." Thereupon the court discussed the evidence, and held that the owners were negligent in leaving the hatch covers as it did.

In "*The Omusk*," the vessel was moored to a wharf where she had been under repair by a shipbuilding com-

pany. This work had been completed, and the workmen of the shipbuilding company under the direction of one of its employes, were about to take out a bulk-head used in repairing. At this time the U. S. Shipping Company was discharging its cargo of cotton. To get to the place of work it was necessary to go through an opening on the upper deck down a temporary stairway to the lower deck. On this deck, very near the place of work, was an open hatch. The place was usually well lighted, but when the workmen were directed to go down, the lights were out. This libellant was one of the workmen directed to descend and engage in removing the bulk-heads. While waiting at the foot of the stairs for other workmen, he moved a few steps, fell through the open hatch, invisible to him, and was severely injured. The alleged negligence on which recovery was sought was failure to have the place of work lighted and leaving open and unguarded the hatch through which he fell. The District Court held the ship alone negligent and liable. The ship appealed and alleged that if there was any negligence the shipbuilding company alone was negligent and liable. The libellant assigned error that the trial court did not hold the shipbuilding company negligent and liable. The ship was acquitted of negligence in failure to light the ship, but was held negligent in failure to guard the open hatch. The shipbuilding company was held liable for directing its employees to proceed with the work in the darkness where there was an open hatch. The ship undertook to relieve itself from

liability through the fact that it had given complete charge of the hatch to the shipbuilding company who was engaged in removing the cargo of cotton and that the employees of this company had left the hatches open. It was held that the ship could not relieve itself of liability by delegating its duty to another.

The Court of Appeals said:

“The ship undertakes to discharge itself of the duty to keep the hatch protected by saying that it had given complete charge of the hatches to the shipping company, which was unloading the cotton, and that its employers had left the hatches open. This defense is unavailing. When the ship contracted with the shipbuilding company for the repairs, it assumed the obligation to keep all the parts of the ship under its control reasonably safe for the employees of the shipbuilding company. It could not relieve itself of the duty by delegating it to the shipbuilding company (citing authorities). * * * *

“We find that the proximate causes of the accident were the negligence of the shipbuilding company, in not furnishing its employees a safe place to work, and the negligence of the ship in not having the hatch guarded as its duty to the shipbuilding company and its employees required.”

Consequently, both the ship and the shipbuilding company were held liable and the decree was modified to this extent.

In the light of these guiding precedents, we submit, sufficient facts are alleged in the libel to charge the respondent shipbuilding company with a responsibility for the injuries which libellant received and the decree of the District Court should be vacated and the testimony taken before a special master appointed by this court and a final decree entered in this court on the testimony adduced.

Respectfully submitted,

WM. P. LORD.

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United States Circuit Court of Appeals

For the Ninth Circuit

JOSEPH SPIESS,

Appellant,

vs.

PACIFIC MARINE IRON WORKS, a corporation, GEORGE H. STURGES and ROBERT B. STURGES, co-partners, doing business under the firm name and style of Sturges & Sturges, and SOMMARSTROM SHIPBUILDING COMPANY, a corporation,

Appellees.

Brief of Sommarstrom Shipbuilding Company

Upon Appeal from the District Court of the United States for the District of Oregon.

WM. P. LORD,

for Appellant,

CHARLES H. CAREY,

JAMES B. KERR,

CHARLES A. HART,

for Appellee,

Sommarstrom Shipbuilding Company.

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Upon Appeal from the District Court of the United States for the District of Oregon.

STATEMENT OF THE CASE

This is a libel *in personam* for personal injuries sustained by the appellant while at work on the steamship "Datis" as an employee of respondent, Sturges and Sturges. The libel named three respondents,—Pacific Marine Iron Works, a corporation, Sturges and Sturges, a co-partnership, and Sommarstrom Shipbuilding Company, a corporation, the appellee here. The Sommarstrom Com-

pany at once challenged the sufficiency of the libel as to it by exceptions which pointed out that the appellant was not its employee, nor was it charged with any duty or responsibility with respect to the appliance appellant was using when injured. The trial court sustained the position of the Sommarstrom Company and from the order of dismissal subsequently made, this appeal is taken.

After the court had sustained the Sommarstrom Company's exception, but before any order of dismissal had been entered, appellant made a settlement with the other respondents and a stipulation was filed reciting that "the above entitled cause and all suits or actions arising from the facts set forth in the libel * * * has been compromised and settled as between them and may be dismissed as to said named respondents with prejudice."

The order of dismissal which was entered upon this stipulation reads:

"Ordered that the above entitled libel be dismissed with prejudice and without costs to the respondents, George H. Sturges and Robert B. Sturges and Pacific Marine Iron Works."

Subsequently and on May 18, 1920, an order of dismissal as to the Sommarstrom Company was entered and it is this order from which appellant has appealed to this court.

ARGUMENT

There are a number of difficulties in the way of a recovery by appellant against the Sommarstrom Company. Before discussing the objection that the libel contains nothing which would fasten responsibility upon the Sommarstrom Company—the only point argued in appellant's brief—we call attention to certain obstacles which, as we think, preclude any recovery from appellee.

1. Appellant assumes there is jurisdiction because the accident happened on the water, although appellant at the time was engaged in work non-maritime in character. But it is not at all certain that locality is the *exclusive* test of jurisdiction in matters of tort in admiralty. A workman engaged in ship construction, even after launching, is performing a non-maritime contract. *The Francis McDonald*, 41 Supreme Court 65, (decided December 6, 1920). The local law and not the maritime law governs the contract relation between master and servant in such work; and the tort growing out of that contract relation is not of a maritime nature and should not be cognizable in admiralty.

The particular point no doubt will be decided in *Grant Smith-Porter Ship Company v. Rohde*, certified by this court to the Supreme Court of the United States on April 5, 1920, the trial court's decision in which is reported in 263 Fed. at page 204. It may be, too, that in the case at

bar the record does not show clearly that appellant's work was ship construction; although the Sommarstrom Company's only relation to the matter grows out of its contract for the construction of the ship, (Record p. 7) and appellant when injured, was performing work delegated by the Sommarstrom Company to the Pacific Marine Iron Works, and by it to appellant's employers, Sturges and Sturges.

2. Appellant's theory is that the Sommarstrom Company, being in control of the ship, was responsible jointly with its subcontractors for their failure to fasten the gang plank through the falling of which appellant was injured. But the record shows that appellant, before the order of dismissal appealed from was made, compromised and settled his claim and "all suits or actions arising from the facts set forth in the libel," and following this settlement an order of dismissal with prejudice was entered reading as follows:

"Ordered that the above entitled libel be dismissed with prejudice and without costs to the respondents George H. Sturges and Robert B. Sturges and Pacific Marine Iron Works.

"Dated this 31st day of March, 1920."

If this order is to be interpreted as a voluntary dismissal with prejudice only as to Sturges and Sturges and the Pacific Marine Iron Works (and it does not so read) it left appellant with a suit not dismissed as to the Sommarstrom Company but with the alleged right of action settled and discharged.

It is elementary law that a person is entitled to only one satisfaction for a wrong, and that a release of one of several joint tort-feasors is a release of all. 27 Am. & Eng. Ann. Cas. 270. Indeed it is very doubtful if under any circumstances, through the device of a covenant not to sue or otherwise, there may be a reservation of the right to sue one of the joint tort-feasors with whom an agreement has not been made. Apparently no reservation was attempted, as the record indicates a settlement and a complete discharge of all rights of action. (Record p. 18).

An illustrative case is *The St. Cuthbert*, 157 Fed. 799, in which the libelant settled with his employers, a stevedoring concern, and then attempted to hold the vessel for his injuries, claiming a defective appliance belonging to the ship. The court said:

“If the use of the rusty nail was an act of negligence, the steamship and the stevedores were joint tort-feasors. The steamship furnished it and the stevedores used it. But the proofs showed that the libelant has received satisfaction from the stevedores for the injury he complains of in the present libel and has given them a general release from all claims arising therefrom. The release of one joint tort-feasor releases all of them.”

If the Sommarstrom Company was connected at all with appellant's mishap, its relation was that of a joint tort-feasor with Sturges and Sturges and Pacific Marine Iron Works. There was but one right of action, and it having been settled and dis-

charged, appellant has no right to complain of the dismissal of the Sommarstrom Company.

Passing these objections, we come to consider whether or not the trial court was right in determining that the Sommarstrom Company had no part in the responsibility for appellant's accident. Shortly stated, the claim of appellant is (1) that he was rightfully on the vessel, (2) that the vessel and those owning or controlling her were required to furnish safe appliances, (3) that the failure of Sturges and Sturges and Pacific Marine Iron Works to cleat or fasten the gang plank used was a failure to furnish a safe appliance; and (4) that the Sommarstrom Company was equally responsible with the other respondents for this delinquency.

Apparently the attempt is to bring the case within the rule of *Leathers v. Blessing*, 105 U. S. 626. This case like *Consolidated C. Company v. Conley*, 250 Fed. 679, cited by appellant, fastened responsibility upon a ship or its owners for failure to cover or guard a hatch. Upon analogous principles of common law (*Southern Pacific Co. v. Jensen*, 37 S. C. 524, 531) those in control of a ship owe a duty to persons coming on board rightfully, to see that there are no dangerous openings; and the rule has been extended to cases of workmen using appliances furnished by the ship. *Hughes on Admiralty*, 2nd Ed., Sec. 103.

While the brief does not say so, it may be in-

ferred that it is this doctrine of implied invitation appellant is seeking to invoke. Certainly there is no other conceivable theory upon which the Sommarstrom Company could be connected with the accident. It was not the man's employer and the work under way was not being done at its plant or with its tools or appliances. Unless through its subcontract with the Pacific Marine Iron Works and the contract of that company with Sturges and Sturges, the Sommarstrom Company may be said to have invited appellant on board the ship, intending that he should use the ship's appliances furnished for the work, there is no hypothesis upon which the Sommarstrom Company could be held.

A clear understanding of the facts will demonstrate the inapplicability of this theory. The Sommarstrom Company had a contract for the construction of the vessel. It sublet to the Pacific Marine Iron Works the interior work, and the latter company in turn contracted with appellant's employers for the installation of plumbing. When the time came for the interior work to be done, the vessel was moved from the Sommarstrom plant at Columbia City to the City of Portland, and was moored at the dock of the Pacific Marine Iron Works. Here the employees of that concern and of Sturges and Sturges were working at the time of the accident, and to enable them to pass back and forth a plank was stretched from the main deck of the vessel to

the dock. The deck of the steamship was about four feet higher than the floor of the dock, and the accident happened because the plank was not cleated or fastened to the deck of the vessel.

It is not claimed that the plank used was a ship's gang plank furnished by the Sommarstrom Company as a part of the ship's apparel. If that be assumed, there is no claim that the plank was insufficient or defective. The charge is that those who put it in place failed to fasten it to the deck of the ship. The Sommarstrom Company had nothing whatever to do with the means chosen by the Iron Works and Sturges and Sturges for getting their employees on and off the vessel. If any appliance of the ship was used, it was not a defective appliance, and there is nothing upon which the doctrine of *Leathers v. Blessing, supra*, and similar cases can rest.

It is true that the libel says (Record p. 8) that "the means of communication provided by *respondents* for their employees working on the said steamship 'Datis' to the aforesaid dock" was a plank as above described. But respondent, Sommarstrom Company, had no employees working there at the time; and the language used must be read in the light of the facts set out in the libel. The respondents, Pacific Marine Iron Works and Sturges and Sturges, were engaged in work at the time and their employees had occasion to go on the ship; and for

the use of these employees they furnished the plank in question. The accident happened because these respondents failed to make the plank fast, and not because of any neglect by the Sommarstrom Company in the construction of the ship or the furnishing of appliances.

The allegation of paragraph IV of the libel that the vessel was at all times "under the control of the respondents" also must be read in the light of the facts stated. It is quite obvious that the vessel while at the dock of the Pacific Marine Iron Works was not under the control of the Sommarstrom Company. The Sommarstrom Company was concerned in the matter because the work being done was covered by the general contract for the construction of the vessel, but it was not in any sense in the position of an employer as to appellant. At most the Sommarstrom Company stood in the same relation to the vessel as its owner, and the limit of its responsibility in this particular was not to furnish a safe place in which to work, (Record p. 10) but to refrain from furnishing defective appliances for the use of subcontractors and their employees.

This seems to be recognized by appellant's argument (Appellant's Brief p. 12) that "a proper gang plank is essentially a part of the ship's apparel" and that those operating her were under legal duty and obligation to provide proper appliances as a means to get on and off the ship. But the language

of the libel contains no suggestion that the gang plank "provided by respondents for their employees working on the said steamship 'Datis,' "if furnished at all by the Sommarstrom Company as one of the ship's appliances, was in any respect defective or insufficient. Whatever the fact may be as to where the plank came from, and whether it was a ship's gang plank or a board procured by the Pacific Marine Iron Works or Sturges and Sturges for temporary use, the charge of negligence had to do not with any defect or insufficiency, but with the failure to make the plank fast. The libel, after a reference to the danger from the rise and fall of the waters of the river says (Record p. 11):

"That the safe and proper method to have been followed in fixing or placing said gang plank so that the same would have been safe to use as a means of ingress and egress under the existing physical conditions hereinbefore described, was to have lashed said gang plank with rope from the inboard side of the plank to ringbolts or deck bits on the inboard side of the steamship, or to have placed cleats under the gang plank."

The Sommarstrom Company had nothing to do with the obligation of appellant's employers to furnish a safe place in which to work. At most it was required to use care with respect to appliances intended for use by the employees of its subcontractors. It will not be presumed that the Sommarstrom Company had failed to provide such ropes

and such ring-bolts or deck bits as ordinarily are included in a ship's apparel; and the failure of the Pacific Marine Iron Works or Sturges and Sturges to use these and to fasten the plank cannot be made the basis of a charge of negligence against the Sommarstrom Company.

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